



DEENDAYAL PORT AUTHORITY

(Erstwhile: DEENDAYAL PORT TRUST)

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EG/WK/4716(EC)/Part III/324

Dated: 19/06/2023

To,
The Unit Head,
Kachchh,
Gujarat Pollution Control Board,
Paryavaran Bhavan, Sector 10A, Gandhinagar-382 010
Email-kut-uh-gpcb@gujarat.gov.in

Sub: Development of Plots for Construction of Warehouses/Godowns (Stage II) at Kandla, Gujarat by Deendayal Port Authority (Erstwhile: Deendayal Port Trust) – **Compliance report of NOC/CTE (Period up to November, 2022) reg.**

- Ref.:**
1. GPCB letter no. GPCB/CCA-KUTCH-799/GPCB ID: 29700 /117726 dated 11/7/2012.
 2. Kandla Port letter no. EG/WK/4716(EC)/60 dated 18/7/2012.
 3. Kandla Port letter no. EG/WK/4716/Part I dated 4/1/2014.
 4. Kandla Port letter no. EG/WK/4716/Part I dated 17/5/2014.
 5. Kandla Port letter no. EG/WK/4716/Part I dated 15/10/2014.
 6. Kandla Port letter no. EG/WK/4716/Part I dated 11/5/2015.
 7. Kandla Port letter no. EG/WK/4716/Part I dated 3/2/2016.
 8. Kandla Port letter no. EG/WK/4716/Part III dated 4/2/2017.
 9. Deendayal Port letter no. EG/WK/4716 (EC)/Part III dated 29/04/2019

Sir,

It is requested to kindly refer above cited references for the said subject.

In this connection, it is to state that, vide above referred letter no. PC/CCA-KUTCH-799/GPCB-ID-29700/117726 dated 11/07/2012. Further GPCB vide letter no. PC/CCA-KUTCH-799/GPCB ID-29700/366824 dated 20/08/2016 had extended validity upto 26/11/2022.

Now, please find enclosed herewith, compliance report of conditions stipulated in CTE order (period up to **November 2022**) along with necessary enclosures as **Annexure I**, for kind perusal & record please.

Further, as per the MoEF&CC, Notification S.O.5845 (E) dated 26.11.2018, stated that "**In the said notification, in paragraph 10, in sub-paragraph (ii), for the words "hard and soft copies" the words "soft copy" shall be substituted**". Accordingly, we are submitting herewith soft copy of the same via e-mail ID kut-uh-gpcb@gujarat.gov.in.

This has the approval of the Chief Engineer, Deendayal Port Authority.

Yours faithfully,


Manager (Environment)
Deendayal Port Authority

Encl.: As above

Copy to: Regional Officer,
Gujarat Pollution Control Board,
Regional office, East Kutch, Gandhidham-370201.
Email Id. ro-gpcb-kute@gujarat.gov.in

Annexure -I

Subject: Point-wise compliance report of stipulated conditions mention in the NOC/CTE for the Development of plots for constructing of Warehouse/Godowns - Stage II at Kandla, Gujarat. (Period Upto Nov 2022).

Statement Showing Allotment of Plots for the construction warehouse /Godown (Stage-II) At Deendayal Port Authority, Kandla.

Out of a total of 49 plots, 14 plots have already been allotted. The remaining plots will be allotted as per the demand of port users following the due e -tendering cum e-auction process.

<u>Plot No</u>	<u>Name of Plot Allottee</u>	<u>Allotment Date</u>	<u>Present Status</u>
17	M/s Shreeji Exports	22/11/2013	Work completed and Commercial operation started.
18	M/S Gokul Refoils & solvent Ltd	22/11/2013	Work completed and Commercial operation started.
19	M/S Gokul Refoils & solvent Ltd	22/11/2013	Work completed and Commercial operation started.
26	M/s Gokul Agro Resource Ltd	22/11/2013	Work completed and Commercial operation started.
31	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
33	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
34	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
35	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
39	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
38	M/s Shreeji Exports	28/09/2022	Open Plot
49	M/S ACT Infraport Ltd	05/01/2015	Work completed and Commercial operation started.
52	M/s Shiv Shipping Services	03/09/2022	Open Plot
53	M/s Siddhivinayak Warehousing	03/09/2022	Open Plot
65	M/S A&I Hospitality Pvt Ltd	22/11/2013	Work completed and Commercial operation started.

Further, the Six-Monthly compliance report of the stipulated Condition Mentioned in Environment & CRZ Clearance submitted by the plot allottees is placed in **Annexure I.**

Sr. No	Conditions	Compliance				
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:						
1.	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	The compliance report of EC & CRZ Clearance issued by the SEIAA, Gujarat dated 27/11/2012 is enclosed herewith as <u>Annexure II</u>				
2.	No groundwater shall be used for the project coming under Dark zone without permission of competent authority.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have not used groundwater for any purpose and appointed a local water Supplier for their water requirement during the construction and operation phase.				
3.	CONDITIONS UNDER WATER ACT 1974:					
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	Not applicable. The godowns are for storage of non-hazardous cargo, as permissible under CRZ Notification, 2011.				
3.2	The quantity of the domestic wastewater (Sewage) shall not exceed NIL.	Point noted for compliance.				
3.3	The unit shall install flow meters at utilities for measuring category-wise (Category as given in Water –Cess Act-1977 schedule II) consumption of water.	Point noted for compliance. / Not applicable				
4.	CONDITIONS UNDER AIR ACT 1981 :					
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	NA, No manufacturing activity is involved. Only storage of Non-Hazardous Dry cargo.				
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	NA, No manufacturing activity is involved. Only storage of Non-Hazardous Dry cargo.				
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	NA, No manufacturing activity is involved. Only storage of Non-Hazardous Dry cargo.				
4.4	The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder. <table><tr><td>Sr.</td><td>Pollutant</td><td>Time</td><td>Concentr</td></tr></table>	Sr.	Pollutant	Time	Concentr	DPA has been conducting regular Monitoring of environmental parameters since the year 2016 through NABL Accredited laboratories. The work is in progress & DPA submitted monitoring data regularly
Sr.	Pollutant	Time	Concentr			

	No.		Weighted Average	Concentration in Ambient air in $\mu\text{g}/\text{m}^3$	to all the concerned authorities along with compliance reports submitted. The Environmental Monitoring Reports is enclosed herewith as Annexure III
	1.	Sulphur Dioxide (SO_2)	Annual 24 Hours	50 80	
	2.	Nitrogen Dioxide (NO_2)	Annual 24 Hours	40 80	
	3.	Particulate Matter (size less than $10\ \mu\text{m}$) OR PM_{10}	Annual 24 Hours	60 100	
	4.	Particulate Matter (size less than $2.5\ \mu\text{m}$) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60	
4.5	The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB (a) during daytime and 70 dB (A) during night time, Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.				DPA has been conducting regular Monitoring of environmental parameters since the year 2016 through NABL Accredited laboratories. The work is in progress & DPA submitted monitoring data regularly to all the concerned authorities along with compliance reports submitted. The Environmental Monitoring Reports is enclosed herewith as Annexure III
5.	CONDITIONS UNDER HAZARDOUS WASTE:				
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of hazardous waste as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 as amended from time to time.				NA, Only Non-Hazardous Dry cargos are to be stored as permissible in CRZ Notification, 2011.
5.2	The applicant shall obtain membership of a common TSDF site for disposal of Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 as amended thereof.				NA, Only Non-Hazardous Dry cargos are to be stored as permissible in CRZ Notification, 2011.
6.	GENERAL CONDITION:				
6.1	Unit shall develop a green belt within premises as per the CPCB guidelines.				DPA has planted about one lakhs trees in roadside dividers, colony

	<p>However, if adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.</p>	<p>areas at Kandla and Gopalpuri, in the greenbelt area of Gandhidham & Adipur Township, Sewage Treatment Plants at Gopalpuri & Kandla and extensive green belt development plans initiated at different locations in Township areas.</p> <p>DPA entrusted work of greenbelt development in and around the Port area to the Forest Department, Gujarat, at the cost of Rs. 352lakhs (Area 32 hectares), and the work is completed.</p> <p>Further, DPA has appointed the Gujarat Institute of Desert Ecology (GUIDE) for "Green belt development in Deendayal Port Authority and its Surrounding Areas, Charcoal site' (Phase-I)" vide Work Order No.EG/WK/4757/Part [Greenbelt GUIDE, dated 31st May 2022 (Annexure IV).</p>
6.2	<p>Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.</p>	<p>All the plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they will develop necessary greenbelt as per the requirement of the condition.</p> <p>DPA has planted about one lakhs trees in roadside dividers, colony areas at Kandla and Gopalpuri, in the greenbelt area of Gandhidham & Adipur Township, Sewage Treatment Plants at Gopalpuri & Kandla and extensive green belt development plans initiated at different locations in Township areas.</p> <p>DPA entrusted work of greenbelt development in and around the Port area to the Forest Department, Gujarat, at the cost of Rs. 352lakhs (Area 32 hectares), and the work is completed.</p> <p>Further, DPA has appointed the Gujarat Institute of Desert Ecology (GUIDE) for "Green belt development in Deendayal Port Authority and its Surrounding Areas, Charcoal site'</p>

		(Phase-I)" vide Work Order No.EG/WK/4757/Part [Greenbelt GUIDE, dated 31 st May 2022 (Annexure IV) .
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.	DPA regularly submitted the Environmental Statement in Form V. The annual return for 2022-23 has already been submitted with the last six-monthly compliance report communicated vide letter dated 06/07/2022
6.4	In case of change of ownership/management the name and address of the new owners/partners/directors/proprietor should immediately be intimated to the Board.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they noted the condition and will be complied with the condition.
6.5	The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they noted the condition and will be complied with the condition.
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have noted the condition and will be complied with the condition.
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that they have already taken adequate measures for control of noise levels from their own sources within the premises. DPA appointed NABL Accredited laboratory, for monitoring of Environmental parameters viz. Air, Water, Noise, etc. since the year 2016, and reports are being

		submitted from time to time to the Regional Office as well as to the MoEF&CC, GoI, New Delhi. The monitoring reports are attached herewith as Annexure III
6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have Only storage of Non-Hazardous Dry cargo.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have noted the condition and will be complied with the condition.
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF/CPCB/DoEF from time to time.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have noted the condition and will be complied with the condition.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that, they have not used groundwater for any purpose and appointed a local water Supplier for their water requirement during the construction and operation phase.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	<p>DPA is already having Environment Management cell. Further, DPA has also appointed expert agency for providing Environmental Experts from time to time. DPA appointed M/s Precitech Laboratories, Vapi for providing Environmental Experts vide work order dated 5/2/2021 (Copy of work order & scope of work attached as (Annexure V)).</p> <p>In addition, it is relevant to submit here that, DPA has appointed Manager (Environment) on contractual basis for the period of 3</p>

		years and further extendable to 2 years. A copy of office order is attached herewith as Annexure VI
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19, 26, 49 & 65) have submitted that they have noted the condition and already appointed the GPCB-approved environmental consultant for carrying out environmental monitoring.</p> <p>DPA appointed NABL Accredited laboratory, for monitoring of Environmental parameters viz. Air, Water, Noise, etc. since the year 2016, and reports are being submitted from time to time to the Regional Office as well as to the MoEF&CC, GoI, New Delhi. The monitoring reports are attached herewith as Annexure III</p>

Annexure -I



Shreeji Exports (Warehouse Division)

Plot No. 1/1, Sector - III, Kandla Special Economic Zone, Gandhidham - 370 230. Kutch
Tel.: (02836) 252342, 253717, 253718 Telefax : (02836) 252342
E-mail : shreejiexports@shreeji-group.com

REGD. OFFICE :

Shreeji Group,
Sector-8, Plot No. 63,
Gandhidham (Kutch),
Gujarat, Pin - 370201.
Tel. : +91 - 2836-225210/11
Fax : +91 - 2836-225411

Date : 03-12-2022

To,
The Superintending Engineer (PL) & EMC (I/c),
Deendayal Port Trust
Gandhidham (Kutch) 370201

Sub. : Submission of 6 monthly compliance report for the period from July 2022 to November 2022

Dear Sir,

With reference to above subject pl find enclosed herewith following compliance reports for the period from July 2022 to November 2022

1. Point wise compliance report of EC and CRZ Clearance to DPT for development of plots for construction of warehouse at Kandla.
2. Monitoring Report : Data Sheet
3. CRZ recommendation for proposed development of plots for construction of warehouse / Godowns Stage II at Kandla
4. Compliance Report of NOC for the project entitled.
5. General Conditions.
6. Environmental Testing Report

Kindly acknowledge the receipt of the same.

For Shreeji Exports (Warehouse Division)


(Authorised Signatory)



345
05/12/2022
Meharaj (Env)/ Shri Padolina
EMC
5/12

SUBJECT: Point wise compliance report of EC and CRZ Clearance to Kandla Port Trust for development of plots for construction of Warehouses at Kandla, Dist. Kutch for the period from July 2022 to November 2022

SEIAA, Gujarat vide their letter no.SEIAA/GUJ/EC/8(b)/351/2012 dated 27/11/2012 had granted Environment and CRZ Clearance for the subject project at Kandla Port Trust.

<u>SPECIFIC CONDITION</u>	Remarks of M/s Shreeji Exports (Warehouse Division)
1. Kandla Port Trust [KPT] shall prepare a master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of Warehouses / Godowns. KPT shall be the responsible for non compliance or violation of any of the terms & conditions mentioned in the master document.	This specific condition is applicable to DPT.
2. KPT shall not allow storage of those materials in Warehouses / Godowns, which are not permissible as per the CRZ Notification, 2011, as may be amended from time to time.	Only Those materials which are permissible as per CRZ notification 2011 shall be stored.
3. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT. The KPT shall carry out only permissible activities within the CRZ areas.	Only Those activities which are permissible as per CRZ notification 2011 as amended time to time are being carried out
4. Mangroves plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either	This specific condition is applicable to DPT.



within or outside the Kandla Port Trust area and six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the Ministry of Environment and Forests as well as to this Department without fail.	
5. All necessary permissions from different Government Departments / agencies shall be obtained by the KPT before commencing the expansion activities.	The activities have been started only after obtaining requisite permission from DPT. However, as per the provision of lease deed regarding obtaining statutory clearance, if any, in future, all the necessary permissions applicable will be obtained.
6. No ground water shall be tapped for any purpose during the construction and operation phases.	No Ground water has been tapped for any purpose and appointed local water supplier for water requirement during construction phase, Further no ground water shall be tapped during operation
7. No effluent or sewage shall be discharged into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the premises.	Necessary septic tanks/ soak pits have been provided for treatment of sewage and treated water is being used for development of green belt in premises.
8. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	Construction activities have been carried out in compliance of this stipulated condition.
9. KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	Necessary Greenbelt will be developed as per the requirement of the condition.
10. An Environmental Audit Report	This specific condition is applicable to



indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED, SEIAA as well as MoEF, GOI.	DPT
A.1 CONSTRUCTION PHASE: We have already completed the construction of our Warehouse. Hence Point No. 11 to 30 is not applicable in our case.	
11.KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	Compliance status not applicable
12.Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Compliance status not applicable
13.All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	Compliance status not applicable
14.The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Compliance status not applicable
15.Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Compliance status not applicable
16.Material shall be covered during transportation to avoid the fugitive emission.	Compliance status not applicable
17.The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	Compliance status not applicable
18.Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid,	Compliance status not applicable



medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	
19. Adequate personal protective equipments shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	Compliance status not applicable
20. All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	Compliance status not applicable
21. The construction debris and /or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	Compliance status not applicable
22. The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	Compliance status not applicable
23. Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA Rules for air and noise emission standards.	Compliance status not applicable
24. Vehicles hired for bringing construction material at site should	Compliance status not applicable



be in good conditions and conform to applicable air and noise emission standards and should be operated only during non-peak hours.	
25. Ambient noise levels should confirm to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	Compliance status not applicable
26. Ready made mix concrete should be used so far as possible.	Compliance status not applicable
27. Water demand during construction should be reduced by use of curing agents, plasticizers and other best practices.	Compliance status not applicable
28. Fly ash should be used as building material in the construction as per provisions of Fly Ash Notification under EPA.	Compliance status not applicable
29. Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	Compliance status not applicable
30. The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	Compliance status not applicable
A-2 OPERATION PHASE:	
31. Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Local water supplier will be appointed for water requirement and also record will be maintained.
32. Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP. Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose.	Necessary septic tanks/ soak pits have been provided for treatment of sewage and treated water is being used for development of green belt in premises.



Dual plumbing system with separate tanks and lines shall be provided for reuse of treated sewage.	
33.Low water consuming devices shall be provided. Fixtures for showers, toilet, flushing and drinking shall be of low flow either by use of aerators/ diffusers or pressure reducing devices etc.	We have taken adequate measures for low water consumption.
34.The municipal solid waste shall be properly collected and segregated at source. Recyclable waste shall be sold off to vendors whereas non recyclable wastes shall be disposed through the local body.	Point Noted. We will complied.
35.Hazardous wastes i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008, as may be amended from time to time.	The godown will be used for storage of cargo only and hence no hazardous wastage generation envisaged.
36.The stack height of the DG Sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the D. G. Sets shall conform to the standards prescribed by GPCB. At no time, the emission levels shall go beyond the stipulated standards.	Point Noted. We will comply.
37.The acoustic enclosures shall be installed at all noise generating equipments such as DG Sets, air conditioning systems, etc. and the noise level shall be	Point Noted. We will comply.



<p>maintained as per the MoEF / CPCB guidelines / norms both during day and night time.</p>	
<p>38.The green belt shall be developed along the boundary and internal roads.</p> <p>The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety.</p> <p>The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose.</p> <p>Drip irrigation / low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.</p>	<p>Green belt has been provided in boundary and internal roads with adequate water springing arrangement.</p>
<p>39.Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent.</p> <p>The area earmarked for the parking shall be used for parking only.</p> <p>No other activity shall be permitted in this area.</p>	<p>Necessary Parking has already been provided as per the guidelines.</p>
<p>40.No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors for parking.</p> <p>Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.</p>	<p>Necessary parking facility has been provided to avoid congestion, in the premises.</p>
<p>41.The project proponent shall install the electric utilities / devises, which are energy efficient and meeting with</p>	<p>Necessary energy efficient devises have been provided as per the requirement of the condition.</p>



<p>the Bureau of Energy Efficiency norms, wherever applicable.</p> <p>Energy Conservation Building Code [ECBC] norms shall be implemented in the project.</p>	
<p>42.The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project.</p> <p>Solar lights shall be provided in the open sunlit areas.</p>	<p>Point Noted.</p> <p>Point Noted.</p>
<p>43.The energy audit shall be conducted at regular interval for the project and the recommendations of the Audit Report shall be implemented with spirit.</p>	<p>Our qualified person will conduct the Energy audit at regular interval at our premises. We will implement the recommendations of the energy Audit Report</p>
<p>44.Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines.</p> <p>Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.</p>	<p>We have taken adequate measures for fire and life safety at our premises.</p> <p>We have already earmarked the area / open passages for free movement of the fire tender / emergency vehicle around the premises.</p>
<p>45.The project management shall prepare a detailed Disaster Management Plan (DMP) for the operational phase of the project.</p>	<p>We have a Disaster Management Plan (DMP) in place.</p>
<p>46.Necessary emergency lighting system along with emergency power back up system shall be provided.</p> <p>In addition, emergency siren/public address system arrangement shall be provided in the township.</p> <p>Necessary signage/maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the</p>	<p>We have provided emergency lighting system.</p> <p>Point Noted.</p> <p>We have provided signage / maps at all appropriate places to guild the people towards exists and assembly points</p>



unforeseen emergency and untoward conditions.	during the unforeseen emergency and untoward conditions.
47. Compulsory Training to the staff for the first aid and fire fighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	The condition noted and will be complied with in due course
48. First Aid Boxes shall be made readily available in adequate quantity at all the times.	First Aid Boxes have been provided in the premises.
49. The project proponent shall ensure maximum employment to the local people.	Point Noted.
50. The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	Due care is being taken for compliance of environment protection measures.
OTHER CONDITION:	
51. A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	DPT has set up EMC for environment monitoring and management during the construction and operational phase of the project.
52. All the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by the KPT.	This specific condition is applicable to DPT.
53. KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and Shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	This specific condition is applicable to DPT.



54.KPT shall have to contribute financially for taking up the socio-economic up liftment activities in this region in consultation with the Forests and Environment Department and the District Collector / District Development Officer.	This specific condition is applicable to DPT.
55.KPT shall contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation / improvement for the Gulf of Kutch.	This specific condition is applicable to DPT.
56.KPT shall bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities.	This specific condition is applicable to DPT.
57.KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department	This specific condition is applicable to DPT.
58. A separate budget shall be earmarked for environmental management and socio-economic activities including the greenbelt / mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	This specific condition is applicable to DPT.
59. Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	Due care is being taken for movement of vehicles in the intertidal zone to maintain ecological features and avoid damages to the eco system.



60. A six monthly report on compliance of the stipulated conditions shall have to be furnished by the KPT in hard and soft copies to the regulatory authorities concerned, on 1 st June and 1 st December of each calendar year.	This specific condition is applicable to DPT.
61.No further expansion or modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.	During the subject period we have not expanded, modified or developed our plot.
62. Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to be complied with by the KPT	We will comply with any other conditions that may be stipulated by F&ED and SEIAA from time to time environmental Protection / management purpose. This specific condition is applicable to DPT.
63.The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	This specific condition is applicable to DPT.
64. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same	Deendayal Port Trust had already been informed to the public that the project has been accorded Environmental Clearance from SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC.



shall be forwarded to the concerned Regional Office of the Ministry	
65. The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	We are following the stipulations made by the GPCB.
66. The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	This specific condition is applicable to DPT.
67. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Compliance not applicable.
68. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.	Point Noted.
69. This environmental clearance is valid for five years from the date of issue.	Point Noted.



**Monitoring the implemental Safe guards Ministry of Environment &
Forests**

Regional office (W), Bhopal.

Monitoring Report (from July 2022 to November 2022)

Part – 1

DATA SHEET (Shreeji Exports- Warehouse Division)

1. Project type : River valley/ Mining/Industry/ thermal/nuclear/Other (specify)	Infrastructure and Miscellaneous Projects + CRZ
2. Name of the project	Development of plots for construction of warehouse/Godowns – Stage II at Kandla by Kandla Port Trust.
3. Clearance Letter (s). OM no and date	Environment / CRZ Clearance issued by SEIAA, Govt. of Gujarat vide letter No. SEIAA/GUJ/EC/8(b)/2012 dated 27 th December 2012,
4. Location a) District (s) b) State (s) c) Location/latitude/longitude	Plot No.17, Kandla, Dist: Kutch State: Gujarat Location: Near NH8A, Kandla Port Trust,
5. Address for Correspondence a) address of Concerned Project Chief Engineer(with pin code & telephone/telex/fax numbers b) Address of Executive project Engineer/manager/(with pin code fax numbers)	Mr. Santosh R Goyal Partner Shreeji Exports Plot No. 63, Sector 8, Near D Mart, Gandhidham – 370 201 Tel : 02836 225210 Dist – Kutch GUJARAT
6. Salient features of the project b) Salient features of the Environmental management plan	Warehouse at Plot No.17 This specific condition is applicable to DPT
7. Break up of the project area a) Submergence area : forest & non-forest b) Others	This specific condition is applicable to DPT
8. Break up of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen a) SC. ST/Adivasis b) Others (please indicate whether these figures are based on any scientific and systematic survey carried out of only provisional figures, if a	This specific condition is applicable to DPT



survey is carried out give details and years of survey).	
9. Financial details	
a) Project cost as originally planned and subsequent revised estimates and the year of prices reference	Approx Rs.10.40 crores.
b) Allocation made for environmental management plans with item wise and year wise break-up	F.Y. 2022-23 : Rs 10000
c) Benefit cost ratio/Internal rate of Return and the year of assessment Whether (c) includes the cost of environmental management plans so far.	N.A
d) Actual expenditure incurred on the project	About Rs. 1226 Lakhs
e) Actual expenditure incurred on the Environmental management plans so far.	Rs. NIL
10. Forest land requirement	Nil
a) The status of approval for diversion of forest land for non-forestry use	Nil- Not related.
b) The status of clear felling	NIL
c) The status of compensatory a forestation, if any	Nil
d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far	NIL.
11. The status of clear felling in non-forest areas (such as submergence area of reservoir, approach roads), if any with quantitative information.	Nil
12. Status of construction	



a) Date of commencement (Actual and/or planned)	01-09-2016
b) Date of completion (Actual and/or planned)	26-12-2017
13. Reasons for the delay if the Project is yet to start	-----
Date of site visited	
a) The dates on which the project was monitored by the regional office on pervious occasion. if any	----- -----
b) The date site visit for this monitoring report	



**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Godowns – Stage II at Kandla,
Dist: Kuchch by M/S Kandla Port Trust Limited- Reg.**

Specific Condition	Remarks of Shreeji Exports (Warehouse Division)
1. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	Only Those activities which are permissible as per CRZ notification 2011 as amended time to time are being carried out
2. The KPT shall participate financially for installing and operating the vessel Traffic Management System in the Gulf of Kachchh and shall also take lead in the preparing and operationalizing the regional oil spill contingency plan in the Gulf of Kachchh.	This specific condition is applicable to DPT.
3. The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked by us.
4. Mangrove plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and Six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the ministry of environment and forest as well as to this department without fail.	This specific condition is applicable to DPT.
5. No ground water shall be tapped for any purpose during the proposed expansion / modernization activities.	No Ground water has been tapped for any purpose and appointed local water supplier for water requirement during construction phase, Further no ground water shall be tapped during operation.



<p>6. All necessary permission from different government departments/agencies shall be obtained by the KPT before commencing the expansion activities.</p>	<p>The activities have been started only after obtaining requisite permission from DPT. However, as per the provision of lease deed regarding obtaining statutory clearance, if any, in future, all the necessary permissions applicable will be obtained</p>
<p>7. No effluent or sewage shall be discharged into the sea/ creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extent feasible.</p>	<p>Necessary septic tanks/ soak pits have been provided for treatment of sewage and treated water is being used for development of green belt in premises.</p>
<p>8. All the recommendations and suggestions given by the NIOT in their environment impact assessment report for conservation/protection and betterment of environment shall be implemented strictly by the KPT.</p>	<p>All recommendations and suggestions will be implemented strictly.</p>
<p>9. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guideline of the NIOT</p>	<p>We are carrying out the operational activities in such a way that there are no any negative impacts on mangroves and other coastal/marine habitats.</p> <p>We have already completed the construction activities. Therefore this compliance is not applicable.</p>
<p>10. The KPT shall contribute financially for any common study or project that may be proposed by this department for environmental management/ conservation /improvement for the Gulf of Kutch.</p>	<p>This specific condition is applicable to DPT.</p>



<p>11.The construction debris and / or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas.</p> <p>The Debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by GPCB.</p>	<p>We will not dispose off any type of waste into the sea, creek or in the CRZ areas.</p> <p>We have already completed the construction of our warehouse. There is no Debris is laying at our site.</p>
<p>12.The construction camps shall be located outside the CRZ area and</p> <p>the construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and</p> <p>it shall be ensured that the environmental conditions are not deteriorated by the construction labours.</p>	<p>We have already completed the construction of our warehouse. This compliance is not applicable.</p>
<p>13.The KPT shall bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.</p>	<p>This specific condition is applicable to DPT.</p>
<p>14.The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.</p>	<p>Necessary Greenbelt will be developed as per the requirement of the condition.</p>
<p>15.The KPT shall have to contribute financially for taking up the socio-economic up-liftment activities in this region in consultation with the forests and environment department and district collector/ district development officer.</p>	<p>This specific condition is applicable to DPT.</p>
<p>16.A separate budget shall be earmarked for environmental management and socio-economic</p>	<p>This specific condition is applicable to DPT.</p>



activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished.	
17.A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	This specific condition is applicable to DPT.
18.An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	This specific condition is applicable to DPT.
19.The KPT shall have to contribute financially to support the national green corps scheme being implemented in Gujarat by the Geer foundation. Gandhinagar, in consultation with forest and environmental department.	This specific condition is applicable to DPT.
20.A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF, GOI.	Agreed with the condition and necessary compliance reports are being submitted to DPT from time to time.
21.Any other condition that may be stipulated by this department from time to time for environmental protection / management purpose shall also have to be complies with by the KPT.	Point Noted. We will comply with any other condition stipulated by the DPT from time to time for environmental protection / management purpose.




activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished.	
17.A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	This specific condition is applicable to DPT.
18.An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	This specific condition is applicable to DPT.
19. The KPT shall have to contribute financially to support the national green corps scheme being implemented in Gujarat by the Geer foundation. Gandhinagar, in consultation with forest and environmental department.	This specific condition is applicable to DPT.
20.A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF, GOI.	Agreed with the condition and necessary compliance reports are being submitted to DPT from time to time.
21.Any other condition that may be stipulated by this department from time to time for environmental protection / management purpose shall also have to be complies with by the KPT.	Point Noted. We will comply with any other condition stipulated by the DPT from time to time for environmental protection / management purpose.



Compliance Report of NOC for the project entitled "Development of plots for construction of Warehouse/Godowns - Stage II."
Period till from July 2022 to November 2022

Sr. No	Conditions	Compliance remark of Shreeji Exports (Warehouse Division)
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1.	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We shall strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	We have not used any ground water.
3.	CONDITIONS UNDER WATER ACT 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	Point Noted, No generation of effluent as we are using the WH for Storage Purpose only.
3.2	The quantity of the domestic waste water (Sewage) shall not exceed NIL.	Point Noted. The quantity of domestic waste water is NIL.
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water – Cess Act-1977 schedule II) consumption of water.	Point Noted.
4.	CONDITIONS UNDER AIR ACT 1981 :	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	NA, No manufacturing activities involved. We are using Warehouse for Storage Purpose only
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	NA, No manufacturing activities involved. We are using Warehouse for Storage Purpose only
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	NA, No manufacturing activities involved. We are using Warehouse for Storage Purpose only.



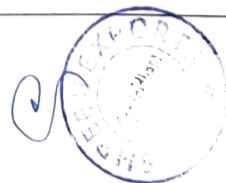
4.4	<p>The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder.</p> <table><tr><th>Sr . No.</th><th>Pollutan t</th><th>Time Weighted Average</th><th>Concentrati on in Ambient air in $\mu\text{g}/\text{M}^3$</th></tr><tr><td>1.</td><td>Sulphur Dioxide (So^2)</td><td>Annual 24 Hours</td><td>50 80</td></tr><tr><td>2.</td><td>Nitrogen Dioxide (No^2)</td><td>Annual 24 Hours</td><td>40 80</td></tr><tr><td>3.</td><td>Particul ate Matter (size less than 10 μm) OR PM_{10}</td><td>Annual 24 Hours</td><td>60 100</td></tr><tr><td>4.</td><td>Particul ate Matter (size less than 2.5 mm) Or $\text{PM}_{2.5}$</td><td>Annual 24 Hours</td><td>40 60</td></tr></table>	Sr . No.	Pollutan t	Time Weighted Average	Concentrati on in Ambient air in $\mu\text{g}/\text{M}^3$	1.	Sulphur Dioxide (So^2)	Annual 24 Hours	50 80	2.	Nitrogen Dioxide (No^2)	Annual 24 Hours	40 80	3.	Particul ate Matter (size less than 10 μm) OR PM_{10}	Annual 24 Hours	60 100	4.	Particul ate Matter (size less than 2.5 mm) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60	Ok noted.
Sr . No.	Pollutan t	Time Weighted Average	Concentrati on in Ambient air in $\mu\text{g}/\text{M}^3$																			
1.	Sulphur Dioxide (So^2)	Annual 24 Hours	50 80																			
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3.	Particul ate Matter (size less than 10 μm) OR PM_{10}	Annual 24 Hours	60 100																			
4.	Particul ate Matter (size less than 2.5 mm) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60																			
4.5	<p>The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time, Daytime is reckoned in between 6a.m. and 10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.</p>	Ok noted																				
5.	CONOITIONS UNDER HAZARDOUS WASTE:																					
5.1	<p>The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended from time to time.</p>	<p>NA, We are using Warehouse for Storage Purpose only. There is no Hazardous Waste generation.</p> 																				



5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.	NA, We are using Warehouse for Storage Purpose only. There is no Hazardous Waste generation.
6.	GENERAL CONDITION:	
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.	We will develop green belt area as per approved drawing.
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	We will develop green belt area as per approved drawing.
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.	Point Noted.
6.4	In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor should immediately be intimated to the Board.	Will be complied with condition.



6.5	<p>The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant.</p> <p>The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>	NA, We are using Warehouse for Storage Purpose only.
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	Point Noted.
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	Point Noted.
6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986	NA, We are using Warehouse for Storage Purpose only.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.	Point Noted.
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	We will strictly comply with the guidelines / Directive issued / being issued by MoEF /CPCB/ DoEF from time to time.



6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	No Ground water for any purpose has been tapped.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	This specific condition is applicable to DPT.
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	Point Noted.



GENERAL CONDITIONS

For the Period from July 2022 to November 2022

Sr. No.	Conditions	Compliance remark of Shreeji Exports (Warehouse Division)
1.	In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board. The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
2.	If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.	Point Noted
3.	The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license	Point Noted.
4.	The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also co-ordinate the exercise of Environmental Audit and preparation of Environmental Statements.	This Specific condition is applicable to DPT.
5.	The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the copy of the same to the GPCB.	Point Noted.
6.	The concentration of Noise on ambient air within the factory premises shall not exceed the following limit: Between 6 AM to 10 PM : 75 dB (A) Between 10 PM to 6AM : 70 dB (A)	We are using warehouse for Storage Purpose only. The concentration of noise on ambient air within our premises is within the limit.
7.	The unit shall, on establishing this plant: a) Put up at the entrance and prominent	Point Noted. We are using



	places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB.	warehouse for Storage Purpose only.
	b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the this Board latest by 30 th September every year	Annual Environmental Audit will be carried out as per the GPCB norms
9.	The unit shall have and use only one outlet for discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
12.	The pipeline connecting various equipments or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
13.	In case of <i>incinerators</i> the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.



14.	In case of plants involving Bio-mass Treatment. For each addition of the bio-mass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded every day.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
15.	<p>The printed log books shall be maintained and get it certified for:</p> <p>a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured.</p> <p>b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures</p> <p>c) Quantity of sludge generated</p> <p>d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
16.	The unit shall operate full and efficiently all its effluent treatment plant/s and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether maintenance/ repairs/ electricity failure or otherwise) and shall not restart such activities unless and until all the effluent treatment plants of the unit are fully operational.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
17.	<p>The unit shall have and operate all the requisite equipment / facilities for prevention and control of air pollution and shall operate the same.</p> <p>The unit shall also have stack monitoring facilities. Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing /processing activities unless and until all its air pollution protection and control equipment and facilities including stack monitoring facilities are fully operational.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
18.	The unit shall submit, before commencing the production to the GPCB any committee appointed by the court, the site plan of the	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.



	unit indicating the location of manufacturing /processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on a board of adequate size within its compound and near its effluent treatment plant/s.	applicable to us.
19.	<p>The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis.</p> <p>The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants.</p> <p>The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
20.	The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
21.	The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
22.	<p>It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system.</p> <p>The unit shall comply with all such</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.



	instructions whether general or special.	
23.	<p>When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution.</p> <p>a) The unit shall not use any diesel generating set or any other alternative source of energy or water tankers from outside.</p> <p>b) The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far</p>	Point Noted.
24.	<p>Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board.</p> <p>Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
25.	<p>Guards ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non-functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
26.	<p>The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
27.	<p>The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately</p>	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.



	put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.	
28.	a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
	b) Stack emissions from boiler and heater should be monitored for SO ₂ , NO _x , hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipment's should be provided for measurement of SO ₂ and NO _x .	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us. No gaseous emissions from the WH operation process is involved.
	c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
	d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
29.	Low NO _x burner should be provided to avoid excessive formulation of NO _x . Only LSH will be used a fuel during the critical month to ensure that SO levels in the ambient air is within the norm Specified.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Naphthalene based	We are using warehouse for Storage Purpose only. Compliance status is not applicable to us.



	product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.	
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	Point Noted.
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	Point Noted.
34.	On-site and off-site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 should be prepared and approval from the Board should be obtained.	Point Noted.
35.	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	This specific point is applicable to KPT.
36.	Periodical medical check-up of the workers should be done and records maintained as a measures to provide occupational health service to the workers.	Point Noted.
37.	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	This specific point is applicable to DPT.
38.	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	This specific point is applicable to DPT.



Environmental Testing Laboratory

Laboratory : Plot No. D-29/16-17, Road No. 17, Hijiwala Industrial Estate

Sachin Palsana Road, Sachin, Surat - 394 230, Gujarat, INDIA

Lab Ph. : + 91-9512874754 E-mail : lab@enprovg.in

TEST REPORT

Report No : **EP/Shreeji/2022/857-01** Issue Date: 15 / 10 / 22

Customer's Name & Address : **Shreeji Exports.**

Plot No. 17, Kandia, Kutch, Gujarat

Description of Sample	Plot No-17	Quantity No. of Sample	1 / 1 No.
Sampling By	ENPRO Team	Packing Seal	Sealed
Date of Sampling	11 / 10 / 22	Duration of Sampling (Hr)	24 Hrs
Sample Received Date	13 / 10 / 22	Protocol (purpose)	Ambient Air Monitoring
Date of Starting of Test	13 / 10 / 22	Date of Completion	14 / 10 / 22
Sampling Method	WI/AA/A	Sample ID	EP/AA 1022 01

Atmospheric Condition		Temperature (°C)	
Wind Direction	Weather Condition	Max.	Min.
NE- SW	Sunny	33.0	24.0

RESULT TABLE

SR. NO.	TEST PARAMETERS	UNIT	RESULTS	LIMIT	METHOD REFERENCE
1	Particulate Matter (PM ₁₀)	µg/m ³	76.0	100	SOP No. WI/AA 01
2	Particulate Matter (PM _{2.5})	µg/m ³	41.0	60	SOP No. WI/AA 01
3	Sulphur Dioxide (SO ₂)	µg/m ³	26.2	80	SOP No. WI/AA 02
4	Nitrogen Dioxide (NO ₂)	µg/m ³	30.8	80	SOP No. WI/AA 03

CHECKED BY
Sweety Patel (Dy.TM)

AUTHORIZED SIGNATORY
Chirantan Desai (TM)

Note : This report is subject to terms & conditions mentioned overleaf



Gokul Refoils & Solvent Ltd.

Corporate Office :
"Gokul House", 43 Shreemali Co-op. Housing Society Ltd.
Opp. Shikhar Building, Navrangpura,
Ahmedabad-380 009. Gujarat (India)
Ph. : +91-79-66304555, 66615253/54/55
Fax : +91-79-66304543 Email : grsl@gokulgroup.com
CIN : L15142GJ1992PLC018745

Date:- 10 March, 2023

To,
O.S.D (Este)
The Dindayal Port Trust
Gandhidham

Sub:- Submission of Environment Reports.

Respected Sir,

We have Submission of

- 1) Compliance Report of NOC for the project entitled "Development of plots for constructing of warehouse/Godown-Stagell
- 2)CRZ Recommendation for proposed development of Plots for Construction of warehouse/ go down - stagell at Kandla,Dist-Kutch by M/S Dindayal Port Trust-Reg.
- 3) Monitoring the implemental safe guard's ministry of Environment & Forests Regional office (W), Bhopal. Monitoring Report UP to March, 2023

Of plot no-18. Outside west gate (New kandla)

Thanking you,

Yours sincerely,

For, GOKUL REFOILS & SOLVENT LTD.

Authorized Signatory.



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13/3/23

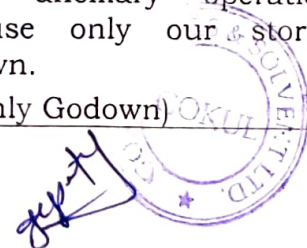
Handwritten signature and checkmark.

Regd. Office & Works : State Highway No-41, Nr. Sujapur Patia, Sidhpur-384 151. Dist. Patan, Gujarat (India)
Phone : +91-2767-222075, 220975 Fax : +91-2767-223475 E-mail : grsl@gokulgroup.com

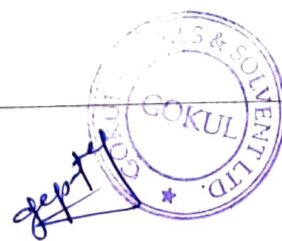
Haldia Refinery Unit : J.L.N. 149, Plot No. Near Essar Petrol Pump, HPL Link Road, P. O. Debhog City Centre,
P.S. Bhabanipur, Haldia Purba - Medanipur - 721657 (West Bengal) Phone : 03224 252839

Compliance Report of NOC for the project entitled "Development of plots for constructing of Warehouse/Godowns - Stage II."

Sr. No	Conditions	Compliance
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1.	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We have already been strictly complied the as prescribed in Environmental / CRZ Clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	We are Not used ground water of for the project coming under Dark zone without permission of competent authority.
3.	CONDITIONS UNDER WATER ACT 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	we are not applicably of The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations be NIL. (As only Godown)
3.2	The quantity of the domestic waste water (Sewage) shall not exceed NIL.	Not Applicable (As only Godown)
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water - Cess Act-1977 schedule II) consumption of water.	Not Applicable (As only Godown)
4.	CONDITIONS UNDER AIR ACT 1981 :	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	There shall be no use of fuel in manufacturing activity and other ancillary operations because only our storage godown. (As only Godown)



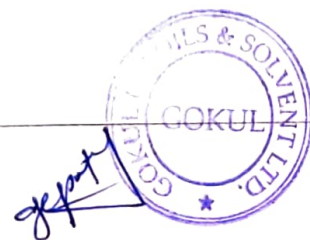
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.			There shall be no flue gas emission from the manufacturing activity and other ancillary operations because only our storage godown. (As only Godown)																				
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.			There shall be no process gas emission from the manufacturing activities and other ancillary operations because only our storage godown. (As only Godown)																				
4.4	<p>The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified here under.</p> <table><tr><th>Sr . No.</th><th>Pollutant</th><th>Time Weighted Average</th><th>Concentration in Ambient air in $\mu\text{g}/\text{M}^3$</th></tr><tr><td>1.</td><td>Sulphur Dioxide (So^2)</td><td>Annual 24 Hours</td><td>50 80</td></tr><tr><td>2.</td><td>Nitrogen Dioxide (No^2)</td><td>Annual 24 Hours</td><td>40 80</td></tr><tr><td>3.</td><td>Particulate Matter (size less than 10 μm) OR PM_{10}</td><td>Annual 24 Hours</td><td>60 100</td></tr><tr><td>4.</td><td>Particulate Matter (size less than 2.5 mm) Or $\text{PM}_{2.5}$</td><td>Annual 24 Hours</td><td>40 60</td></tr></table>			Sr . No.	Pollutant	Time Weighted Average	Concentration in Ambient air in $\mu\text{g}/\text{M}^3$	1.	Sulphur Dioxide (So^2)	Annual 24 Hours	50 80	2.	Nitrogen Dioxide (No^2)	Annual 24 Hours	40 80	3.	Particulate Matter (size less than 10 μm) OR PM_{10}	Annual 24 Hours	60 100	4.	Particulate Matter (size less than 2.5 mm) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60	<p>The concentration of SOx, NOx, PM_{10} and $\text{PM}_{2.5}$ have within the limit.</p> <div></div>
Sr . No.	Pollutant	Time Weighted Average	Concentration in Ambient air in $\mu\text{g}/\text{M}^3$																					
1.	Sulphur Dioxide (So^2)	Annual 24 Hours	50 80																					
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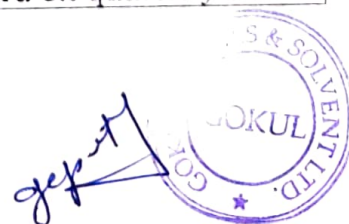
4.5	The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time, Daytime is reckoned in between 6a.m. and 10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.	We have already take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time.
5.	CONOITIONS UNDER HAZARDOUS WASTE:	
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended from time to time.	We are only Storage Godown not used any type of hazardous waste.
5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.	N/A, As only storage Godown
6.	GENERAL CONDITION:	
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.	We have earmarked the area i.e 10 miter width at periphery area of their own plot for development of greenbelt.
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	We have earmarked the area i.e 10 miter width at periphery area of their own plot for development of greenbelt.
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act-	Applicants will submit returns in the prescribed form regarding consumption of water. Under the Water Cess Act



	1977.	1977, the Board will pay water cess.
6.4	In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor should immediately be intimated to the Board.	We will immediately be intimated to GPCB In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor.
6.5	<p>The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant.</p> <p>The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>	<p>We have not altered outlet for the sewage waste from their own premises.</p> <p>If required, We will make applications to GPCB for altered outlet for the sewage waste in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	The applicants will comply with the Annexure-I with general conditions as per the attached (1 to 38) (whichever is applicable).
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	We have already taken adequate measures for control of noise levels from its own sources within the premises.



6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986	Not Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986 because only our storage godown.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.	We will pay the compensation as determined by the competent authority, if any damage is caused due to their industrial activities to any person or his property.
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	We will strictly comply with the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	We have not been used / withdraw ground water during construction phase. Further, and also not use / withdraw ground water during operation phase.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	We are agreed of Environmental cell shall be setup and shall be responsible for the total Environmental management
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	We are agreed of Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.

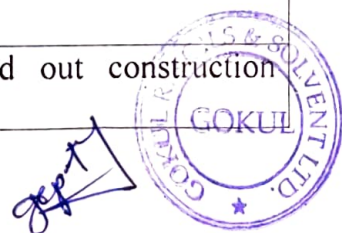


**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Godowns – Stage II at Kandla,
Dist: Kuchchh by M/S Kandla Port Trust Limited- Reg.**

Specific Condition	
<p>1. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT.</p> <p>No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.</p>	<p>We strictly following the provisions of the CRZ notification of 2011 and subsequent amendments issued from time to time.</p> <p>We have carried out only those activities which are permissible under CRZ Notification, 2011 and subsequent amendments from time to time.</p>
<p>2. The KPT shall participate financially for installing and operating the vessel Traffic Management System in the Gulf of Kachchh and</p> <p>shall also take lead in the preparing and operationalizing the regional oil spill contingency plan in the Gulf of Kachchh.</p>	<p>We will take part in financially for establishing and operating the vessel traffic management system in KPT Bay of Kutch.</p> <p>Regional oil spill in the Gulf of Kutch will also lead in the preparation and operation of contingency plans.</p>
<p>3. The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.</p>	<p>We will not block any gulf or rivers due to any activity in Kandla</p>
<p>4. Mangrove plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and</p> <p>Six monthly compliance reports</p>	<p>Noted and will be complied.</p>



along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the ministry of environment and forest as well as to this department without fail.	
5. No ground water shall be tapped for any purpose during the proposed expansion / modernization activities.	No any ground water have been tapped for any purpose during the proposed construction activities carried out by us.
6. All necessary permission from different government departments/agencies shall be obtained by the KPT before commencing the expansion activities.	Kandla Port Trust had already been obtained NOC from Gujarat State Pollution Control Board vide letter GPCB/CCA-KUTCH-789/GPCB ID 29700/117726 dated 17/07/2012. Further, GPCB vide provisional letter dated 12/08/2016 had extended the validity period for NOC/CTE up to 16/08/2023.
7. No effluent or sewage shall be discharged into the sea/ creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extent feasible.	No any sewages have been discharged into the sea / creek or in the CRZ area. We will earmarked the area for STP/ Sock Pit and will treated to conform to the norms prescribed by the Gujarat Pollution Control Board We will reused /recycled the treated water for development of greenbelt at their own premises.
8. All the recommendations and suggestions given by the NIOT in their environment impact assessment report for conservation/protection and betterment of environment shall be implemented strictly by the KPT.	we are agree NIOT in their environment impact assessment report.
9. The construction and operational activities shall be carried out in	We have carried out construction

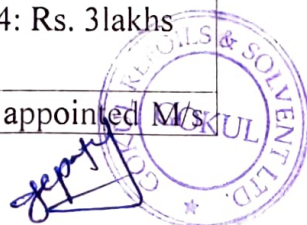


<p>such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guideline of the NIOT</p>	<p>activities in such a way that there are no any negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities have been carried out as per suggestion / recommendation given by the NIOT</p>
<p>10.The KPT shall contribute financially for any common study or project that may be proposed by this department for environmental management/conservation /improvement for the gulf of Kutch.</p>	<p>Kandla Port Trust / We will contribute financially for any common study or project that may be proposed by Forest & Environment department for environmental management/conservation /improvement for the gulf of Kutch.</p>
<p>11.The construction debris and / or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas.</p> <p>The Debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by GPCB.</p>	<p>We will not disposed of any construction debris or any other type of waste into the sea, creek or in the CRZ areas.</p> <p>Construction debris will be removed immediately after construction activities completed and same will be disposed off as per the GPCB norms / Construction and Demolition Rule, 2016 by us.</p>
<p>12.The construction camps shall be located outside the CRZ area and</p> <p>the construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and</p> <p>it shall be ensured that the environmental conditions are not</p>	<p>No any construction camps had required at Project site because only local peoples / labours involved for the construction activities.</p> <p>We will be provided the necessary amenities, sanitation, water and fuel to their labour during the construction phase.</p> <p>No any environmental conditions have been deteriorated by the construction labours during the</p>

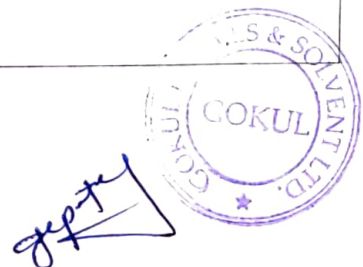
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deteriorated by the construction labours.	construction activities carried out by us.
13. The KPT shall bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.	Kandla Port Trust / We will bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.
14. The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We have earmarked the area i.e 10 meter width at periphery area of their own plot for development of greenbelt.
15. The KPT shall have to contribute financially for taking up the socio-economic up liftment activities in this region in consultation with the forests and environment department and district collector/ district development officer.	We have to cooperate with KPT to contribute financially to take socio-economic upliftment activities in this area in consultation with the Forest and Environment Department and the District Collector / District Development Officer.
16. A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished.	A separate budget for environmental protection has been maintained by us. For the year 2022–2023: Rs. 3 Lacs For the year 2023–2024 : Rs. 3 Lacs Details of above said budget for Environmental Management and socioeconomic activities have been submitted to statutory authorities regularly along with six monthly compliance report. The expenditure form the above said budget are given as under: For the year 2022–2023: Rs. 3 Lakhs For the year 2023–2024: Rs. 3lakhs
17.A separate environmental	We have already been appointed M/s



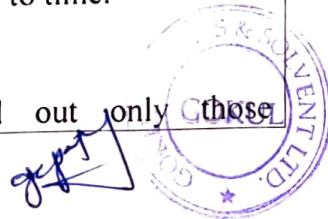
management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	Earth Envirotech, GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at their own premises.
18. An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	We will, with reference to changes in relation to baseline environmental quality in the coastal and marine environment, an Environmental Audit Report will be handed over to the Department every year by KPT as well as MoEF, Government of India.
19. The KPT shall have to contribute financially to support the national green corps scheme being implemented in Gujarat by the Geer foundation. Gandhinagar, in consultation with forest and environmental department.	We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
20. A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF GOI.	We have submitted six monthly compliance reports to KPT.
21. Any other condition that may be stipulated by this department from time to time for environmental protection / management purpose shall also have to be complies with by the KPT	We will comply any other condition that may be stipulated by F&ED from time to time for environmental protection / management purpose.



SUBJECT : Point wise compliance report of EC and CRZ Clearance to Kandla Port Trust for development of plots for construction of Warehouses / Godowns (Stage II) at Kandla, Dist. Kutch Reg.

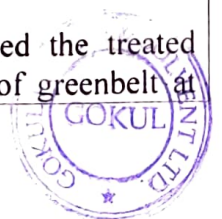
SEIAA, Gujarat vide their letter no.SEIAA/GUJ/EC/8(b)/351/2012 dated 27/11/2012 had granted Environment and CRZ Clearance for the subject project at Kandla Port Trust.

<u>SPECIFIC CONDITION</u>	
1. Kandla Port Trust [KPT] shall prepare a master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of Warehouses / Godowns. KPT shall be the responsible for non compliance or violation of any of the terms & conditions mentioned in the master document.	Kandla Port Trust had already prepared a master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed with the bidders of Warehouses / Godowns.
2. KPT shall not allow storage of those materials in Warehouses / Godowns, which are not permissible as per the CRZ Notification, 2011, as may be amended from time to time.	We have only stored those materials in godowns, which are permissible as per CRZ notification, 2011 and amended from time to time.
3. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	We will strictly followed the CRZ Notification of 2011 and amended from time to time. No any activities have been carried out by us in contradiction to the provisions of the CAZ. Notification, 2011 and amended from time to time. We have carried out only those



<p>The KPT shall carry out only permissible activities within the CRZ areas.</p>	<p>activities in warehouse / godowns, which are permissible as per CRZ notification, 2011 and amended from time to time.</p>
<p>4. Mangroves plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla Port Trust area and six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the Ministry of Environment and Forests as well as to this Department without fail.</p>	<p>Point noted and will be complied.</p>
<p>5. All necessary permissions from different Government Departments / agencies shall be obtained by the KPT before commencing the expansion activities.</p>	<p>Kandla Port Trust had already been obtained NOC/CTE from Gujarat Pollution Control Board vide letter GPCB/CCA-KUTCH-789/GPCB ID 29700/117726 dated 17/07/2012. Further, GPCB vide provisional Letter dated 12/08/2016 has already extended the validity period up to 16/08/2023.</p>
<p>6. No ground water shall be tapped for any purpose during the construction and operation phases.</p>	<p>No any ground water have been tapped by us for the construction activities.</p>
<p>7. No effluent or sewage shall be discharged into the sea / creek or in the CRZ area</p> <p>and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and</p> <p>would be reused / recycled within the</p>	<p>No any sewages have been discharged into the sea / creek or in the CRZ area.</p> <p>We have already earmarked the area for STP/ Sock Pit and will treated to conform to the norms prescribed by the Gujarat Pollution Control Board</p> <p>We will reused /recycled the treated water for development of greenbelt at</p>

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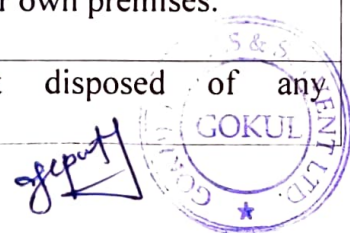


premises.	their own premises.
<p>8. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.</p>	<p>We will do construction activities in such a way that there are no any negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities have been carried out as per suggestion / recommendations given by the NIOT.</p>
9. KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We will earmarked the area i.e 10 meter width at periphery area of their own plot for development of greenbelt.
10. An Environmental Audit Report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED, SEIAA as well as MoEF, GOI.	As there is no any generation of pollutants, this is not applicable.
A.1 CONSTRUCTION PHASE:	
11. KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked due to construction activities carried out by us.
12. Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Records of the water supply will be maintained. flow meter reading photographs will be submitted for future work.
13. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	We have provided the necessary arrangement for sanitation and hygienic measures and same will be maintained throughout the construction phase.

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14.The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Necessary barricades with adequate height at periphery area of plots along with signage have been provided by us.
15.Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Measures for Controlling fugitive emission have been provided by us.
16.Material shall be covered during transportation to avoid the fugitive emission.	Vehicles have been covered with tarpaulin for controlling the fugitive emission during the transportation of material by us.
17.The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	Roads at inside the project area and connected to main road have been paved and necessary arrangement have been provided by us to control the fugitive emissions during construction activities.
18.Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	Necessary arrangement for drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities have been provided by us. No any adverse activities on existing environmental condition have been carried out by workers during the construction phase.
19.Adequate personal protective equipments shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	Necessary PPE have been provided to workers by us and same have been monitored to ensure the usages of PPEs by labors.
20.All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	We will stored all the topsoil excavated during construction activities and same can be used for development of greenbelt at their own premises.
21.The construction debris and /or any other type of waste shall not be	We will not disposed of any

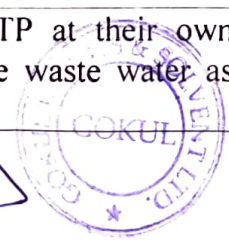


<p>disposed of into the sea, creek or in the CRZ areas.</p> <p>The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.</p>	<p>construction debris or any other type of waste into the sea, creek or in the CRZ areas.</p> <p>Construction debris will be removed immediately after construction activities completed and same will be disposed off as per the GPCB norms / Construction and Demolition Rule, 2016 by successful plot allottees.</p>
<p>22. The construction camps shall be located outside the CRZ area and</p> <p>the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and</p> <p>it shall be ensured that the environmental conditions are not deteriorated by the construction labors.</p>	<p>No any construction camps had required at Project site because only local peoples / labours involved for the construction activities.</p> <p>We will be provided the necessary amenities, sanitation, water and fuel to their labour during the construction phase.</p> <p>No any environmental conditions have been deteriorated by construction labours during the construction activities carried out by us.</p>
<p>23. Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA Rules for air and noise emission standards.</p>	<p>Agreed</p>
<p>24. Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and</p> <p>should be operated only during non-peak hours.</p>	<p>We will only hired those Vehicles having valid pollution under control license granted by statutory authorities.</p> <p>Project area is connected with national highway, so transporting activities have been carried out only at day time by us.</p>
<p>25. Ambient noise levels should confirm to residential standards both during day and night.</p>	<p>We have appointed M/s Earth Envirotech (GPCB approved Environmental Consultant) for carrying</p>

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Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	out Environmental Monitoring at our premises. We will closely monitor day and night noise quality to residential standards. And the ambient air monitor through M/s Earth Envirotech (GPCB approved Environmental Consultant) during construction and operation activities.
26. Ready made mix concrete should be used so far as possible.	We will use ready made mix concrete wherever required for the construction activities.
27. Water demand during construction should be reduced by use of curing agents, plasticizers and other best practices.	Noted
28. Fly ash should be used as building material in the construction as per provisions of Fly Ash Notification under EPA.	Noted
29. Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	We will start construction activities after only approval of layout map / planning from competent authority and they also strictly adhered to carry out construction activities with considering the seismic zone area.
30. The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	We have already earmarked the area for storage and handling of construction materials and debris at their own premises so that no any negative impacts on air, public and road – traffic take place.
A-2 OPERATION PHASE:	
31. Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	We will fulfill the water requirement from Narmada pipeline through GWSSB during operation phase. We will maintain records for water consumption at their own premises.
32. Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP.	We will construct STP at their own premises and treat the waste water as per the GPCB norms.

<p>Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose.</p> <p>Dual plumbing system with separate tanks and lines shall be provided for reuse of treated sewage.</p>	<p>We will reuse treated water for development of greenbelt at their own premises.</p> <p>Necessary arrangement will be provided by us for reuse of treated sewages.</p>
<p>33.Low water consuming devices shall be provided. Fixtures for showers, toilet, flushing and drinking shall be of low flow either by use of aerators/ diffusers or pressure reducing devices etc.</p>	<p>Adequate measures for low water consumption will be provided by us during operational phase.</p>
<p>34.The municipal solid waste shall be properly collected and segregated at source.</p> <p>Recyclable waste shall be sold off to vendors whereas non recyclable wastes shall be disposed through the local body.</p>	<p>Municipal solid waste will be collected and segregated as per the solid waste management rule, 2016 by us.</p> <p>We will registered with TSDF for proper collection, transportation and disposed off solid waste as per the norms.</p>
<p>35.Hazardous wastes i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008, as may be amended from time to time.</p>	<p>We will registered with TSDF for proper collection, transportation and disposed off hazardous waste as per the norms.</p>
<p>36.The stack height of the DG Sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the D. G. Sets shall conform to the standards prescribed by GPCB. At no time, the emission levels shall go</p>	<p>We will take adequate measure for DG sets at their own premises during the operational phase.</p>



beyond the stipulated standards.	
<p>37.The acoustic enclosures shall be installed at all noise generating equipments such as DG Sets, air conditioning systems, etc.</p> <p>and the noise level shall be maintained as per the MoEF / CPCB guidelines / norms both during day and night time.</p>	<p>Acoustic enclosures will be installed at the noise generating equipment by us during operation phase.</p> <p>Noise level will be maintained as per the MoEF / CPCB guidelines / norms both during day and night time by us during operational phase.</p>
<p>38.The green belt shall be developed along the boundary and internal roads.</p> <p>The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety.</p> <p>The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose.</p> <p>Drip irrigation / low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.</p>	<p>We have already been earmarked area for development of greenbelt at periphery area of their own premises.</p> <p>The open spaces inside the plot area will be suitably landscaped and covered with vegetation of indigenous variety by us during operation phase.</p> <p>We will not altered green earmarked area for any other purpose.</p> <p>We will used drip irrigation / low-volume, low-angle sprinkler system for the lawns and other green area including tree plantation during the operation phase.</p>
<p>39.Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent.</p> <p>The area earmarked for the parking shall be used for parking only.</p> <p>No other activity shall be permitted in this area.</p>	<p>We have already earmarked the area for parking places as the norms.</p> <p>The earmarked area for parking spaces will be used only for parking by us during the operation phase.</p> <p>We will not carry out any other activities at earmarked area for parking spaces.</p>
40.No public space shall be used or	No any public space will be used or

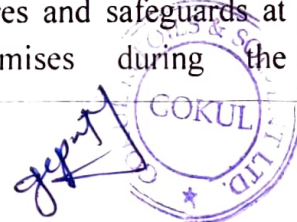
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<p>blocked for the parking and the trained staff shall be deployed to guide the visitors for parking.</p> <p>Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.</p>	<p>blocked for parking by us during the operational phase. Further, same will be monitored by qualified staff.</p> <p>No any congestion near the entry and exit points from the roads adjoining the plots will take placed by us during operation phase.</p>
<p>41.The project proponent shall install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable.</p> <p>Energy Conservation Building Code [ECBC] norms shall be implemented in the project.</p>	<p>We will install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable during the operation phase.</p> <p>We will implement the Energy Conservation Building Code [ECBC] norms at their own premises during the operation phase.</p>
<p>42.The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project.</p> <p>Solar lights shall be provided in the open sunlit areas.</p>	<p>We will take adequate measures for using of the transformers and motors at their own premises during the operation phase.</p> <p>We will be provide the Solar lights at open sunlit areas during the operation phase.</p>
<p>43.The energy audit shall be conducted at regular interval for the project and</p> <p>the recommendations of the Audit Report shall be implemented with spirit.</p>	<p>Energy audit will be carried out by us at regular interval at their own premises during the operation phase.</p> <p>We will firmly implemented the recommendations of the energy Audit Report at their own premises during operation phase.</p>
<p>44.Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines.</p>	<p>Adequate measures shall be taken for fire and life safety as per the provisions of the NBC by us at their own premises during the operation phase.</p> <p>We have already earmarked the area /</p>

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GOVERNMENT OF KERALA
CORPORATION &
LIMITED

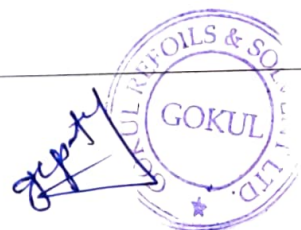
Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	open passages for free movement of the fire tender / emergency vehicle around the premises during the operation phase.
45.The project management shall prepare a detailed Disaster Management Plan (DMP) for the operational phase of the project.	Preparation of disaster management plan (DMP) is under process and same will be submitted to statutory authorities after finalization of DMP.
46.Necessary emergency lighting system along with emergency power back up system shall be provided. In addition, emergency siren/public address system arrangement shall be provided in the township. Necessary signage/maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.	Necessary emergency lighting system, along with emergency power back up system will be provided by us during the operation phase. We will provide the emergency siren/public address system arrangement at identified area during the operational phase. We will provide the Necessary signage/maps at all appropriate places to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions during the operation phase.
47. Compulsory Training to the staff for the first aid and fire fighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	Necessary training will be given to employee for emergency management plan by us during the operational phase.
48. First Aid Boxes shall be made readily available in adequate quantity at all the times.	Adequate quantity of First Aid Room/Boxes will be provided by us in the construction phase and operation phase of the project.
49.The project proponent shall ensure maximum employment to the local people.	Law of land shall be followed by us.
50.The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	We will strictly comply with all the environment protection measures, risk mitigation measures and safeguards at their own premises during the



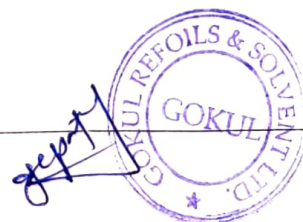
	construction phase.
OTHER CONDITION:	
51. A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	We have been appointed M/s Earth Envirotech GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at premises.
52. All the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by the KPT.	The recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment have been strictly followed.
53. KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and Shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	Noted.
54. KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the Forests and Environment Department and the District Collector / District Development Officer.	Noted.
55. KPT shall contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation /	Kandla Port Trust / We will contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation /



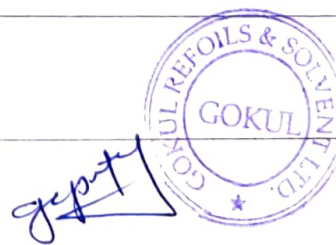
improvement for the Gulf of Kutch.	improvement for the Gulf of Kutch.
56.KPT shall bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities.	Kandla Port Trust / We will bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities
57.KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department	Kandla Port Trust / We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
58. A separate budget shall be earmarked for environmental management and socio-economic activities including the greenbelt / mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	A separate budget for environmental protection has been maintained by us. For the year 2023-2024 : Rs.50,000 thousands Details of above said budget for Environmental Management and socioeconomic activities have been submitted to statutory authorities regularly along with six monthly compliance report. The expenditure details will be submitted to statutory authorities along with the compliance report from time to time.
59. Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	No any vehicles movement in the inter tidal zone have been carried out by us.



60. A six monthly report on compliance of the stipulated conditions shall have to be furnished by the KPT in hard and soft copies to the regulatory authorities concerned, on 1 st June and 1 st December of each calendar year.	We have already been submitted six monthly compliance reports to KPT.
61.No further expansion or modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.	We have not extended, modified or developed further expansion likely to cause environmental impact.
62. Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to be complied with by the KPT	Kandla Port Trust / We will comply any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose.
63.The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein.	We have earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein.
The funds so provided shall not be diverted for any other purpose.	We have not diverted earmarked fund for any other purposes.
64. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated	Kandla Port Trust had already been informed to the public that the project has been accorded Environmental Clearance from SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC.



in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry	.
65.The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	We have strictly following the stipulations made by the GPCB.
66.The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Kandla port Trust / We will inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
67.The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Agreed with the SEIAA.
68.The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.	Kandla Port Trust / We will strictly adhere above conditions under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.
69.This environmental clearance is valid for five years from the date of issue.	Agreed



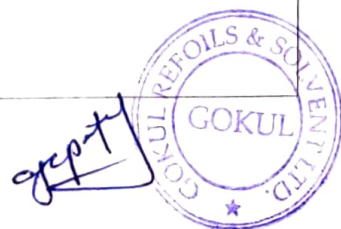
**Monitoring the implemental Safe guards Ministry of Environment &
Forests**

**Regional office (W), Bhopal.
Monitoring Report (Up to May, 2019)**

Part – 1

DATA SHEET

1. Project type : River valley/ Mining/Industry/ thermal/nuclear/Other (specify)	Infrastructure and Miscellaneous Projects + CRZ
2. Name of the project	Development of plots for construction of warehouse/Godowns.
3. Clearance Letter (s). OM no and date	Environment / CRZ Clearance issued by SEIAA, Govt. of Gujarat.
4. Location a) District (s) b) State (s) c) Location/latitude/longitude	Plot No.18, outside West Gate, New Kandla, Dist: Kutch State: Gujarat Location: Near NH8A, Kandla Port Trust,
	Mr.BipinThakker Director GokulRefoils& Solvent Limited 'Gokul House" 43, Shreemali Co-op. Housing Soc, Ltd, Opp, Shikhar Building, Navrangpura, Ahmedabad- 380009
6. Salient features of the project b) Salient features of the Environmental management plan	Construction of warehouse at plot No.18 1. Master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed with the bidders of Godowns have been made between us.
7. Break up of the project area a) Submergence area : forest & non-forest b) Others	Nil Nil
8. Break up of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen a) SC. ST/Adivasis b) Others	Nil Nil



(please indicate whether these figures are based on any scientific and systematic survey carried out of only provisional figures, if a survey is carried out give details and years of survey).	Nil
9. Financial details	Approx Rs.12.00 Crores.
a) Project cost as originally planned and subsequent revised estimates and the year of prices reference	
b) Allocation made for environmental management plans with item wise and year wise break-up	Year 2022 – 2023 : Rs. 3 Lakhs Year 2023 – 2024 : Rs. 3 Lakhs
c) Benefit cost ratio/Internal rate of Return and the year of assessment Whether (c) includes the cost of environmental management plans so far.	N.A
d) Actual expenditure incurred on the project	Rs.7 crores
e) Actual expenditure incurred on the environmental management plans so far.	Rs. 3 Lakhs
10. Forest land requirement	Nil
a) The status of approval for diversion of forest land for non-forestry use	Nil- Not related.
b) The status of clear felling	NIL
c) The status of compensatory a forestation, if any	Nil
d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far	NIL.
11. The status of clear felling in non-forest areas (such as submergence area of reservoir,	Nil

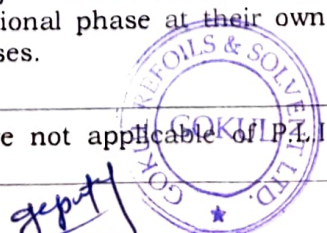


approach roads), if any with quantitative information.	
12. Status of construction	
a) Date of commencement (Actual and/or planned)	1.10.2015
b) Date of completion (Actual and/or planned)	01-01-2021
13. Reasons for the delay if the Project is yet to start	-----
Date of site visited	
a) The dates on which the project was monitored by the regional office on pervious occasion. if any	----- -----
b) The date site visit for this monitoring report	

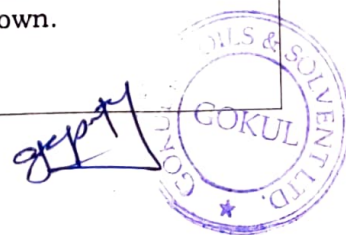


GENERAL CONDITIONS

Sr.No.	Conditions	Compliance
1.	<p>In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board.</p> <p>The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.</p>	<p>We will make any changes in the products, its capacity or manufacturing process, the applicant will get prior permission of this board.</p> <p>The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.</p>
2.	If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.	We agree if the product is in Schedule I or II of the audit plan of the environment, as specified in the Hon'ble 13/03/97 order. The High Court, MCA No. 326/97 in SCA No. 770/95 will also follow the scheme.
3.	The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license	We will be obtained necessary clearance from the statutory authorities.
4.	The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also co-ordinate the exercise of Environmental Audit and preparation of Environmental Statements.	We have already been appointed GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at their own premises.
5.	The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the	We are not applicable of P.L.I



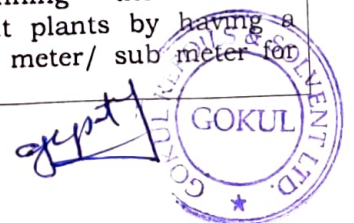
	copy of the same to the GPCB.	Policy as per P.L.I act-1991.
6.	<p>The concentration of Noise on ambient air within the factory premises shall not exceed the following limit:</p> <p>Between 6 AM to 10 PM : 75 dB (A)</p> <p>Between 10 PM to 6AM : 70 dB (A)</p>	<p>We are agreed of The concentration of Noise on ambient air within the factory premises shall not exceed the following limit:</p> <p>Between 6 AM to 10 PM : 75 dB (A)</p> <p>Between 10 PM to 6AM : 70 dB (A)</p>
7.	The unit shall, on establishing this plant:	
	a) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB.	I agree that at the entrance are placed at the entrance and the name of the unit, the details of the product / process and the name of the entity / partners / directors of the unit, the number of electricity subscriber number and the name of the power are recorded at GEB As consumer.
	b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause	We are not applicably as plots are only for storage godown.
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the this Board latest by 30 th September every year	Annual Environmental Audit will be carried out as per the GPCB norms
9.	The unit shall have and use only one outlet for discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	We are not applicably as plots are only for storage godown.
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	N/A as plots are only for storage godown.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	N/A as plots are only for storage godown.



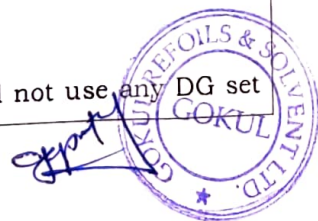
12.	The pipeline connecting various equipments or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	N/A as plots are only for storage godown.
13.	In case of incinerators the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day	N/A as plots are only for storage godown.
14.	In case of plants involving Bio-mass Treatment. For each addition of the bio-mass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded everyday.	N/A as plots are only for storage godown.
15.	The printed log books shall be maintained and get it certified for:	Printed log books will be maintained and get certified by us for
	a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured.	a) N/A as plots are only for storage godown.
	b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures	b) N/A as plots are only for storage godown.
	c) Quantity of sludge generated	c) N/A as plots are only for storage godown.
	d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.	d) N/A as plots are only for storage godown.
16.	The unit shall operate full and efficiently all its effluent treatment plant/s and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether maintenance/ repairs/ electricity failure or otherwise) and shall not restart	We will strictly comply the condition in case of non-operational of STP for any reason whatsoever



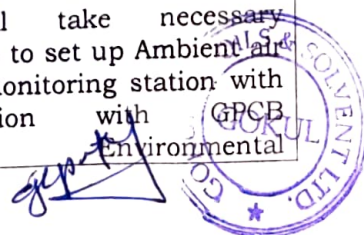
	such activities unless and until all the effluent treatment plants of the unit are fully operational.	
17.	<p>The unit shall have and operate all the requisite equipment / facilities for prevention and control of air pollution and shall operate the same.</p> <p>The unit shall also have stack monitoring facilities.</p> <p>Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing /processing activities unless and until all its air pollution protection and control equipments and facilities including stack monitoring facilities are fully operational.</p>	<p>We have already been operated all the requisite equipments/ facilities for prevention and control of air pollution.</p> <p>N/A as plots are only for storage godown.</p> <p>We will strictly comply the condition for air pollution protection and control equipments and facilities</p>
18.	The unit shall submit, before commencing the production to the GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing /processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on a board of adequate size within its compound and near its effluent treatment plant/s.	N/A as plots are only for storage godown.
19.	<p>The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis.</p> <p>The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants.</p>	<p>We will supply the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis to the GPCB.</p> <p>We will supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for</p>



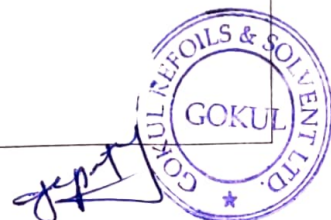
	The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.	such effluent treatment plants. We will supply the number of units consumed by operating the diesel generating sets, if any to GPCB.
20.	The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.	We will submit the details of date of the commencement of work and the monthly electricity consumption report to GPCB within stipulated time period.
21.	The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.	We are already provided full support to GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the premises.
22.	It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system. The unit shall comply with all such instructions whether general or special.	We have already provided full support to GPCB officials during their visits at project site. Further, We will comply all such instruction given by statutory authorities during their visit at project site.
23.	When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution. a) The unit shall not use any diesel generating set or any other alternative	a) We will not use any DG set



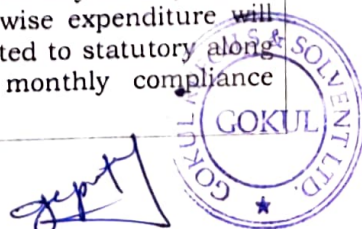
	<p>source of energy or water tankers from outside.</p> <p>b) The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far</p>	<p>or any other alternative source of energy or water tankers from outside.</p> <p>b) We will pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice.</p>
24.	<p>Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board.</p> <p>Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.</p>	<p>We will set up the adequate number of influent and effluent quality monitoring stations as per the GPCB norms.</p> <p>We have already appointed GPCB approved Environmental Consultant for carry out Environmental Monitoring at their own premises.</p>
25.	<p>Guards ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.</p>	<p>Adequate measures will be taken by us at their own premises.</p>
26.	<p>The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.</p>	<p>Necessary monitoring report will be submitted by us to statutory authorities on stipulated time periods.</p>
27.	<p>The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>we will strictly followed the air emission standards specified in this order.</p>
28.	<p>a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations</p>	<p>We will take necessary measures to set up Ambient air quality monitoring station with consultation with GPCB approved Environmental</p>



	should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.	Consultant
	b) Stack emissions from boiler and heater should be monitored for SO ₂ , NO _x , hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipments should be provided for measurement of SO ₂ and NO _x .	N/A as plots are only for storage godown.
	c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.	N/A as plots are only for storage godown.
	d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.	We will take adequate measures for control, regularly monitored and data record of fugitive emissions and same will be submitted to GPCB within stipulated time period.
29.	Low NO _x burner should be provided to avoid excessive formulation of NO _x . Only LSH will be used a fuel during the critical month to ensure that SO levels in the ambient air is within the norm Specified.	N/A as plots are only for storage godown.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	We will jointly arrange all the necessary arrangements for disposal of solid waste including safe storage and impermeable flooring and leachate collection and the unit will collect and handle solid waste according to the provisions of relevant rules on their behalf.
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Napthalene based product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification	We are Agreed .



	treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.	
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	The creation, storage and transport of hazardous chemicals will be according to the creation, storage and import of hazardous chemical regulations - 1989
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	we are not applicabal as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986 because as plots are only for storage godown.
34.	On-site and off-site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 should be prepared and approval from the Board should be obtained.	we are not applicabal as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 .
35.	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	We will take adequate measures for improving the socio-economic environment and report for the same will be submitted to the Board and Government for review.
36.	Periodical medical check up of the workers should be done and records maintained as a measures to provide occupational health service to the workers.	We have already been carried out periodical medical check up of the workers and maintained as a measures to provide occupational health service to the workers.
37.	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	We have already appointed GPCB approved Environmental Consultant for carry out Environmental Monitoring at their own premises.
38.	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	We have not been diverted the funds earmarked for the Environmental Protection Measures for any other purpose and year wise expenditure will be submitted to statutory along with six monthly compliance report.





Gokul Refoils & Solvent Ltd.

Corporate Office :

"Gokul House", 43 Shreemali Co-op. Housing Society Ltd.

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Ahmedabad-380 009, Gujarat (India)

Ph. : +91-79-66304555, 66615253/54/55

Fax : +91-79-66304543 Email : grsl@gokulgroup.com

CIN : L15142GJ1992PLC018745

Date:- 10 March, 2023

To,
O.S.D (Este)
The Dindayal Port Trust
Gandhidham

Sub:- Submission of Environment Reports.

Respected Sir,

We have Submission of

- 1) Compliance Report of NOC for the project entitled "Development of plots for constructing of warehouse/Godown-Stagell
 - 2) CRZ Recommendation for proposed development of Plots for Construction of warehouse/ go down - stagell at Kandla, Dist-Kutch by M/S Dindayal Port Trust-Reg.
 - 3) Monitoring the implemental safe guard's ministry of Environment & Forests Regional office (W), Bhopal. Monitoring Report UP to March, 2023
- Of plot no-19. Outside west gate (New kandla)

Thanking you,

Yours sincerely,

For, GOKUL REFOILS & SOLVENT LTD.

Authorized Signatory

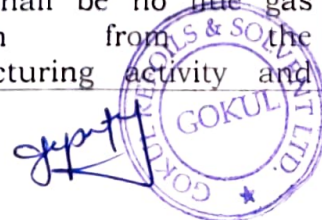
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13/3/23

Regd. Office & Works : State Highway No-41, Nr. Sujanpur Patia, Sidhpur-384 151. Dist. Patan, Gujarat (India)
Phone : +91-2767-222075, 220975 Fax : +91-2767-223475 E-mail : grsl@gokulgroup.com

Haldia Refinery Unit : J.L.N. 149, Plot No. Near Essar Petrol Pump, HPL Link Road, P. O. Debhog City Centre,
P.S. Bhabanipur, Haldia Purba - Medanipur - 721657 (West Bengal) Phone : 03224 252839

Compliance Report of NOC for the project entitled "Development of plots for constructing of Warehouse/Godowns - Stage II."

Sr. No	Conditions	Compliance
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1.	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We have already been strictly complied the as prescribed in Environmental / CRZ Clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	We are Not used ground water of for the project coming under Dark zone without permission of competent authority.
3.	CONDITIONS UNDER WATER ACT 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	we are not applicably of The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations be NIL. (As only Godown)
3.2	The quantity of the domestic waste water (Sewage) shall not exceed NIL.	Not Applicable (As only Godown)
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water – Cess Act-1977 schedule II) consumption of water.	Not Applicable (As only Godown)
4.	CONDITIONS UNDER AIR ACT 1981 :	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	There shall be no use of fuel in manufacturing activity and other ancillary operations because only our storage godown. (As only Godown)
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.



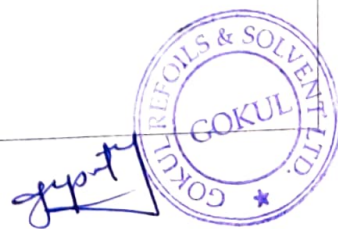
		other ancillary operations because only our storage godown. (As only Godown)
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	There shall be no process gas emission from the manufacturing activities and other ancillary operations because only our storage godown. (As only Godown)

4.4

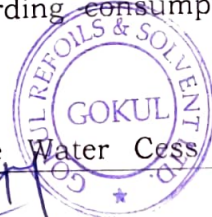
The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified here under.

Sr . No.	Pollutant	Time Weighted Average	Concentration in Ambient air in $\mu\text{g}/\text{M}^3$
1.	Sulphur Dioxide (SO_2)	Annual 24 Hours	50 80
2.	Nitrogen Dioxide (NO_2)	Annual 24 Hours	40 80
3.	Particulate Matter (size less than 10 μm) OR PM_{10}	Annual 24 Hours	60 100
4.	Particulate Matter (size less than 2.5 μm) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60

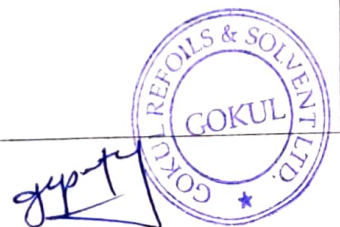
The concentration of SO_x , NO_x , PM_{10} and $\text{PM}_{2.5}$ have within the limit.



4.5	The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time, Daytime is reckoned in between 6a.m. and 10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.	We have already take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time.
5.	CONOITIONS UNDER HAZARDOUS WASTE:	
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended from time to time.	We are only Storage Godown not used any type of hazardous waste.
5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.	N/A, As only storage Godown
6.	GENERAL CONDITION:	
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.	We have earmarked the area i.e 10 miter width at periphery area of their own plot for development of greenbelt.
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	We have earmarked the area i.e 10 miter width at periphery area of their own plot for development of greenbelt.
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act-	Applicants will submit returns in the prescribed form regarding consumption of water. Under the Water Cess Act



	1977.	1977, the Board will pay water cess.
6.4	In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor should immediately be intimated to the Board.	We will immediately be intimated to GPCB In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor.
6.5	<p>The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant.</p> <p>The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>	<p>We have not altered outlet for the sewage waste from their own premises.</p> <p>If required, We will make applications to GPCB for altered outlet for the sewage waste in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	The applicants will comply with the Annexure-I with general conditions as per the attached (1 to 38) (whichever is applicable).
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	We have already taken adequate measures for control of noise levels from its own sources within the premises.



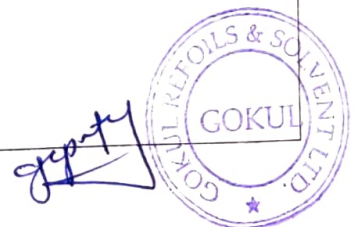
6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986	Not Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986 because only our storage godown.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.	We will pay the compensation as determined by the competent authority, if any damage is caused due to their industrial activities to any person or his property.
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	We will strictly comply with the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	We have not been used / withdraw ground water during construction phase. Further, and also not use / withdraw ground water during operation phase.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	We are agreed of Environmental cell shall be setup and shall be responsible for the total Environmental management
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	We are agreed of Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.

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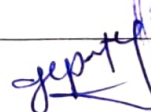



**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Godowns – Stage II at Kandla,
Dist: Kuchchh by M/S Kandla Port Trust Limited- Reg.**

Specific Condition	
<p>1. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT.</p> <p>No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.</p>	<p>We strictly following the provisions of the CRZ notification of 2011 and subsequent amendments issued from time to time.</p> <p>We have carried out only those activities which are permissible under CRZ Notification, 2011 and subsequent amendments from time to time.</p>
<p>2. The KPT shall participate financially for installing and operating the vessel Traffic Management System in the Gulf of Kachchh and</p> <p>shall also take lead in the preparing and operationalizing the regional oil spill contingency plan in the Gulf of Kachchh.</p>	<p>We will take part in financially for establishing and operating the vessel traffic management system in KPT Bay of Kutch.</p> <p>Regional oil spill in the Gulf of Kutch will also lead in the preparation and operation of contingency plans.</p>
<p>3. The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.</p>	<p>We will not block any gulf or rivers due to any activity in Kandla</p>
<p>4. Mangrove plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and</p> <p>Six monthly compliance reports</p>	<p>Noted and will be complied.</p>



along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the ministry of environment and forest as well as to this department without fail.	
5. No ground water shall be tapped for any purpose during the proposed expansion / modernization activities.	No any ground water have been tapped for any purpose during the proposed construction activities carried out by us.
6. All necessary permission from different government departments/agencies shall be obtained by the KPT before commencing the expansion activities.	Kandla Port Trust had already been obtained NOC from Gujarat State Pollution Control Board vide letter GPCB/CCA-KUTCH-789/GPCB ID 29700/117726 dated 17/07/2012. Further, GPCB vide provisional letter dated 12/08/2016 had extended the validity period for NOC/CTE up to 16/08/2023.
7. No effluent or sewage shall be discharged into the sea/ creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extent feasible.	No any sewages have been discharged into the sea / creek or in the CRZ area. We will earmarked the area for STP/ Sock Pit and will treated to conform to the norms prescribed by the Gujarat Pollution Control Board We will reused /recycled the treated water for development of greenbelt at their own premises.
8. All the recommendations and suggestions given by the NIOT in their environment impact assessment report for conservation/protection and betterment of environment shall be implemented strictly by the KPT.	we are agree NIOT in their environment impact assessment report.
9. The construction and operational activities shall be carried out in	We have carried out construction

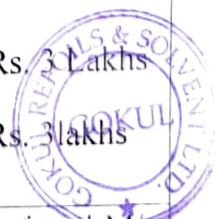



<p>such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guideline of the NIOT</p>	<p>activities in such a way that there are no any negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities have been carried out as per suggestion / recommendation given by the NIOT</p>
<p>10.The KPT shall contribute financially for any common study or project that may be proposed by this department for environmental management/conservation /improvement for the gulf of Kutch.</p>	<p>Kandla Port Trust / We will contribute financially for any common study or project that may be proposed by Forest & Environment department for environmental management/conservation /improvement for the gulf of Kutch.</p>
<p>11.The construction debris and / or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas.</p> <p>The Debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by GPCB.</p>	<p>We will not disposed of any construction debris or any other type of waste into the sea, creek or in the CRZ areas.</p> <p>Construction debris will be removed immediately after construction activities completed and same will be disposed off as per the GPCB norms / Construction and Demolition Rule, 2016 by us.</p>
<p>12.The construction camps shall be located outside the CRZ area and</p> <p>the construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and</p> <p>it shall be ensured that the environmental conditions are not</p>	<p>No any construction camps had required at Project site because only local peoples / labours involved for the construction activities.</p> <p>We will be provided the necessary amenities, sanitation, water and fuel to their labour during the construction phase.</p> <p>No any environmental conditions have been deteriorated by the construction labours during the</p>

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deteriorated by the construction labours.	construction activities carried out by us.
13.The KPT shall bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.	Kandla Port Trust / We will bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.
14.The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We have earmarked the area i.e 10 meter width at periphery area of their own plot for development of greenbelt.
15.The KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the forests and environment department and district collector/ district development officer.	We have to cooperate with KPT to contribute financially to take socio-economic upliftment activities in this area in consultation with the Forest and Environment Department and the District Collector / District Development Officer.
16.A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished.	A separate budget for environmental protection has been maintained by us. For the year 2022–2023: Rs. 3 Lacs For the year 2023–2024 : Rs. 3 Lacs Details of above said budget for Environmental Management and socioeconomic activities have been submitted to statutory authorities regularly along with six monthly compliance report. The expenditure from the above said budget are given as under: For the year 2022–2023: Rs. 3 Lakhs For the year 2023–2024: Rs. 3 lakhs
17.A separate environmental	We have already been appointed M/s

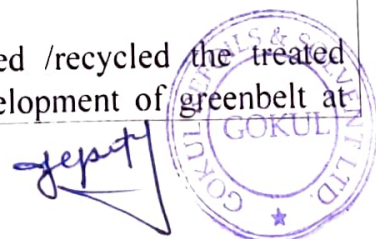


management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	Earth Envirotech, GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at their own premises.
18. An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	We will, with reference to changes in relation to baseline environmental quality in the coastal and marine environment, an Environmental Audit Report will be handed over to the Department every year by KPT as well as MoEF, Government of India.
19. The KPT shall have to contribute financially to support the national green corps scheme being implemented in Gujarat by the Geer foundation. Gandhinagar, in consultation with forest and environmental department.	We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
20. A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF, GOI.	We have submitted six monthly compliance reports to KPT.
21. Any other condition that may be stipulated by this department from time to time for environmental protection / management purpose shall also have to be complies with by the KPT.	We will comply any other condition that may be stipulated by F&ED from time to time for environmental protection / management purpose.

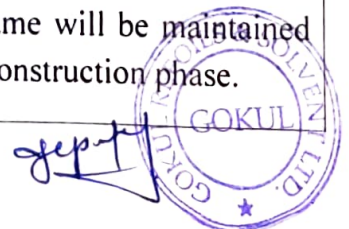
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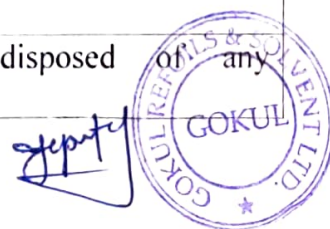
<p>The KPT shall carry out only permissible activities within the CRZ areas.</p>	<p>activities in warehouse / godowns, which are permissible as per CRZ notification, 2011 and amended from time to time.</p>
<p>4. Mangroves plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla Port Trust area and six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the Ministry of Environment and Forests as well as to this Department without fail.</p>	<p>Point noted and will be complied.</p>
<p>5. All necessary permissions from different Government Departments / agencies shall be obtained by the KPT before commencing the expansion activities.</p>	<p>Kandla Port Trust had already been obtained NOC/CTE from Gujarat Pollution Control Board vide letter GPCB/CCA-KUTCH-789/GPCB ID 29700/117726 dated 17/07/2012. Further, GPCB vide provisional Letter dated 12/08/2016 has already extended the validity period up to 16/08/2023.</p>
<p>6. No ground water shall be tapped for any purpose during the construction and operation phases.</p>	<p>No any ground water have been tapped by us for the construction activities.</p>
<p>7. No effluent or sewage shall be discharged into the sea / creek or in the CRZ area</p> <p>and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and</p> <p>would be reused / recycled within the</p>	<p>No any sewages have been discharged into the sea / creek or in the CRZ area.</p> <p>We have already earmarked the area for STP/ Sock Pit and will treated to conform to the norms prescribed by the Gujarat Pollution Control Board</p> <p>We will reused /recycled the treated water for development of greenbelt at</p>



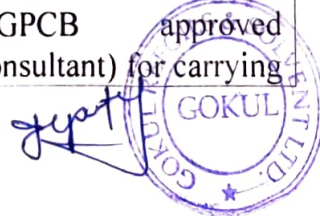
premises.	their own premises.
<p>8. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.</p>	<p>We will do construction activities in such a way that there are no any negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities have been carried out as per suggestion / recommendations given by the NIOT.</p>
9. KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We will earmarked the area i.e 10 miter width at periphery area of their own plot for development of greenbelt.
10. An Environmental Audit Report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED, SEIAA as well as MoEF, GOI.	As there is no any generation of pollutants, this is not applicable.
A.1 CONSTRUCTION PHASE:	
11. KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked due to construction activities carried out by us.
12. Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Records of the water supply will be maintained. flow meter reading photographs will be submitted for future work.
13. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	We have provided the necessary arrangement for sanitation and hygienic measures and same will be maintained throughout the construction phase.



14. The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Necessary barricades with adequate height at periphery area of plots along with signage have been provided by us.
15. Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Measures for Controlling fugitive emission have been provided by us.
16. Material shall be covered during transportation to avoid the fugitive emission.	Vehicles have been covered with tarpaulin for controlling the fugitive emission during the transportation of material by us.
17. The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	Roads at inside the project area and connected to main road have been paved and necessary arrangement have been provided by us to control the fugitive emissions during construction activities.
18. Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	Necessary arrangement for drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities have been provided by us. No any adverse activities on existing environmental condition have been carried out by workers during the construction phase.
19. Adequate personal protective equipments shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	Necessary PPE have been provided to workers by us and same have been monitored to ensure the usages of PPEs by labors.
20. All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	We will stored all the topsoil excavated during construction activities and same can be used for development of greenbelt at their own premises.
21. The construction debris and /or any other type of waste shall not be	We will not disposed any



<p>disposed of into the sea, creek or in the CRZ areas.</p> <p>The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.</p>	<p>construction debris or any other type of waste into the sea, creek or in the CRZ areas.</p> <p>Construction debris will be removed immediately after construction activities completed and same will be disposed off as per the GPCB norms / Construction and Demolition Rule, 2016 by successful plot allottees.</p>
<p>22. The construction camps shall be located outside the CRZ area and</p> <p>the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and</p> <p>it shall be ensured that the environmental conditions are not deteriorated by the construction labors.</p>	<p>No any construction camps had required at Project site because only local peoples / labours involved for the construction activities.</p> <p>We will be provided the necessary amenities, sanitation, water and fuel to their labour during the construction phase.</p> <p>No any environmental conditions have been deteriorated by construction labours during the construction activities carried out by us.</p>
<p>23. Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA Rules for air and noise emission standards.</p>	<p>Agreed</p>
<p>24. Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and</p> <p>should be operated only during non-peak hours.</p>	<p>We will only hire those Vehicles having valid pollution under control license granted by statutory authorities.</p> <p>Project area is connected with national highway, so transporting activities have been carried out only at day time by us.</p>
<p>25. Ambient noise levels should conform to residential standards both during day and night.</p>	<p>We have appointed M/s Earth Envirotech (GPCB approved Environmental Consultant) for carrying</p>



Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	out Environmental Monitoring at our premises. We will closely monitor day and night noise quality to residential standards. And the ambient air monitor through M/s Earth Envirotech (GPCB approved Environmental Consultant) during construction and operation activities.
26. Ready made mix concrete should be used so far as possible.	We will use ready made mix concrete wherever required for the construction activities.
27. Water demand during construction should be reduced by use of curing agents, plasticizers and other best practices.	Noted
28. Fly ash should be used as building material in the construction as per provisions of Fly Ash Notification under EPA.	Noted
29. Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	We will start construction activities after only approval of layout map / planning from competent authority and they also strictly adhered to carry out construction activities with considering the seismic zone area.
30. The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	We have already earmarked the area for storage and handling of construction materials and debris at their own premises so that no any negative impacts on air, public and road – traffic take place.
A-2 OPERATION PHASE:	
31. Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	We will fulfill the water requirement from Narmada pipeline through GWSSB during operation phase. We will maintain records for water consumption at their own premises.
32. Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP.	We will construct STP at their own premises and treat the waste water as per the GPCB norms.

Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose.	We will reuse treated water for development of greenbelt at their own premises.
Dual plumbing system with separate tanks and lines shall be provided for reuse of treated sewage.	Necessary arrangement will be provided by us for reuse of treated sewages.
33.Low water consuming devices shall be provided. Fixtures for showers, toilet, flushing and drinking shall be of low flow either by use of aerators/ diffusers or pressure reducing devices etc.	Adequate measures for low water consumption will be provided by us during operational phase.
34.The municipal solid waste shall be properly collected and segregated at source.	Municipal solid waste will be collected and segregated as per the solid waste management rule, 2016 by us.
Recyclable waste shall be sold off to vendors whereas non recyclable wastes shall be disposed through the local body.	We will registered with TSDF for proper collection, transportation and disposed off solid waste as per the norms.
35.Hazardous wastes i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008, as may be amended from time to time.	We will registered with TSDF for proper collection, transportation and disposed off hazardous waste as per the norms.
36.The stack height of the DG Sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the D. G. Sets shall conform to the standards prescribed by GPCB. At no time, the emission levels shall go	We will take adequate measure for DG sets at their own premises during the operational phase.



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beyond the stipulated standards.	
<p>37.The acoustic enclosures shall be installed at all noise generating equipments such as DG Sets, air conditioning systems, etc.</p> <p>and the noise level shall be maintained as per the MoEF / CPCB guidelines / norms both during day and night time.</p>	<p>Acoustic enclosures will be installed at the noise generating equipment by us during operation phase.</p> <p>Noise level will be maintained as per the MoEF / CPCB guidelines / norms both during day and night time by us during operational phase.</p>
<p>38.The green belt shall be developed along the boundary and internal roads.</p> <p>The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety.</p> <p>The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose.</p> <p>Drip irrigation / low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.</p>	<p>We have already been earmarked area for development of greenbelt at periphery area of their own premises.</p> <p>The open spaces inside the plot area will be suitably landscaped and covered with vegetation of indigenous variety by us during operation phase.</p> <p>We will not altered green earmarked area for any other purpose.</p> <p>We will used drip irrigation / low-volume, low-angle sprinkler system for the lawns and other green area including tree plantation during the operation phase.</p>
<p>39.Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent.</p> <p>The area earmarked for the parking shall be used for parking only.</p> <p>No other activity shall be permitted in this area.</p>	<p>We have already earmarked the area for parking places as the norms.</p> <p>The earmarked area for parking spaces will be used only for parking by us during the operation phase.</p> <p>We will not carry out any other activities at earmarked area for parking spaces.</p>
40.No public space shall be used or	No any public space will be used or

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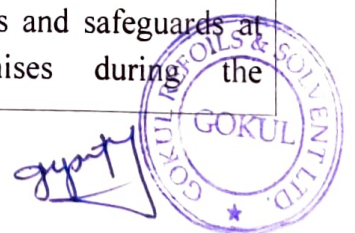


<p>blocked for the parking and the trained staff shall be deployed to guide the visitors for parking.</p> <p>Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.</p>	<p>blocked for parking by us during the operational phase. Further, same will be monitored by qualified staff.</p> <p>No any congestion near the entry and exit points from the roads adjoining the plots will take placed by us during operation phase.</p>
<p>41.The project proponent shall install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable.</p> <p>Energy Conservation Building Code [ECBC] norms shall be implemented in the project.</p>	<p>We will install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable during the operation phase.</p> <p>We will implement the Energy Conservation Building Code [ECBC] norms at their own premises during the operation phase.</p>
<p>42.The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project.</p> <p>Solar lights shall be provided in the open sunlit areas.</p>	<p>We will take adequate measures for using of the transformers and motors at their own premises during the operation phase.</p> <p>We will be provide the Solar lights at open sunlit areas during the operation phase.</p>
<p>43.The energy audit shall be conducted at regular interval for the project and</p> <p>the recommendations of the Audit Report shall be implemented with spirit.</p>	<p>Energy audit will be carried out by us at regular interval at their own premises during the operation phase.</p> <p>We will firmly implemented the recommendations of the energy Audit Report at their own premises during operation phase.</p>
<p>44.Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines.</p>	<p>Adequate measures shall be taken for fire and life safety as per the provisions of the NBC by us at their own premises during the operation phase.</p> <p>We have already earmarked the area /</p>

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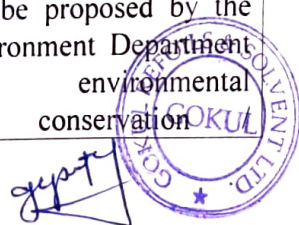
Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	open passages for free movement of the fire tender / emergency vehicle around the premises during the operation phase.
45.The project management shall prepare a detailed Disaster Management Plan (DMP) for the operational phase of the project.	Preparation of disaster management plan (DMP) is under process and same will be submitted to statutory authorities after finalization of DMP.
46.Necessary emergency lighting system along with emergency power back up system shall be provided.	Necessary emergency lighting system, along with emergency power back up system will be provided by us during the operation phase.
In addition, emergency siren/public address system arrangement shall be provided in the township.	We will provide the emergency siren/public address system arrangement at identified area during the operational phase.
Necessary signage/maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.	We will provide the Necessary signage/maps at all appropriate places to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions during the operation phase.
47. Compulsory Training to the staff for the first aid and fire fighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	Necessary training will be given to employee for emergency management plan by us during the operational phase.
48. First Aid Boxes shall be made readily available in adequate quantity at all the times.	Adequate quantity of First Aid Room/Boxes will be provided by us in the construction phase and operation phase of the project.
49.The project proponent shall ensure maximum employment to the local people.	Law of land shall be followed by us.
50.The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	We will strictly comply with all the environment protection measures, risk mitigation measures and safeguards at their own premises during the



	construction phase.
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OTHER CONDITION:

51. A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	We have been appointed M/s Earth Envirotech GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at premises.
52. All the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by the KPT.	The recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment have been strictly followed.
53. KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and Shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	Noted.
54. KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the Forests and Environment Department and the District Collector / District Development Officer.	Noted.
55. KPT shall contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation /	Kandla Port Trust / We will contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation



improvement for the Gulf of Kutch.	improvement for the Gulf of Kutch.
56.KPT shall bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities.	Kandla Port Trust / We will bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities
57.KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department	Kandla Port Trust / We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
58. A separate budget shall be earmarked for environmental management and socio-economic activities including the greenbelt / mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	A separate budget for environmental protection has been maintained by us. For the year 2023-2024 : Rs.50,000 thousands Details of above said budget for Environmental Management and socioeconomic activities have been submitted to statutory authorities regularly along with six monthly compliance report. The expenditure details will be submitted to statutory authorities along with the compliance report from time to time.
59. Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	No any vehicles movement in the inter tidal zone have been carried out by us.



<p>60. A six monthly report on compliance of the stipulated conditions shall have to be furnished by the KPT in hard and soft copies to the regulatory authorities concerned, on 1st June and 1st December of each calendar year.</p>	<p>We have already been submitted six monthly compliance reports to KPT.</p>
<p>61.No further expansion or modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.</p>	<p>We have not extended, modified or developed further expansion likely to cause environmental impact.</p>
<p>62. Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to be complied with by the KPT</p>	<p>Kandla Port Trust / We will comply any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose.</p>
<p>63.The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein.</p> <p>The funds so provided shall not be diverted for any other purpose.</p>	<p>We have earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein.</p> <p>We have not diverted earmarked fund for any other purposes.</p>
<p>64. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated</p>	<p>Kandla Port Trust had already been informed to the public that the project has been accorded Environmental Clearance from SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC.</p>



in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry	.
65.The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	We have strictly following the stipulations made by the GPCB.
66.The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Kandla port Trust / We will inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
67.The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Agreed with the SEIAA.
68.The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.	Kandla Port Trust / We will strictly adhere above conditions under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.
69.This environmental clearance is valid for five years from the date of issue.	Agreed



gupta

**Monitoring the implemental Safe guards Ministry of Environment &
Forests**

**Regional office (W), Bhopal.
Monitoring Report (Up to May, 2019)**

Part – 1

DATA SHEET

1. Project type : River valley/ Mining/Industry/ thermal/nuclear/Other (specify)	Infrastructure and Miscellaneous Projects + CRZ
2. Name of the project	Development of plots for construction of warehouse/Godowns.
3. Clearance Letter (s). OM no and date	Environment / CRZ Clearance issued by SEIAA. Govt. of Gujarat.
4. Location a) District (s) b) State (s) c) Location/latitude/longitude	Plot No.19, outside West Gate, New Kandla, Dist: Kutch State: Gujarat Location: Near NH8A, Kandla Port Trust,
	Mr.BipinThakker Director GokulRefoils& Solvent Limited 'Gokul House" 43, Shreemali Co-op. Housing Soc, Ltd, Opp, Shikhar Building, Navrangpura, Ahmedabad- 380009
6. Salient features of the project b) Salient features of the Environmental management plan	Construction of warehouse at plot No.18 1. Master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed with the bidders of Godowns have been made between us.
7. Break up of the project area a) Submergence area : forest & non-forest b) Others	Nil Nil
8. Break up of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen a) SC. ST/Adivasis b) Others	Nil Nil



(please indicate whether these figures are based on any scientific and systematic survey carried out of only provisional figures, if a survey is carried out give details and years of survey).	Nil
9. Financial details a) Project cost as originally planned and subsequent revised estimates and the year of prices reference b) Allocation made for environmental management plans with item wise and year wise break-up c) Benefit cost ratio/Internal rate of Return and the year of assessment Whether (c) includes the cost of environmental management plans so far. d) Actual expenditure incurred on the project e) Actual expenditure incurred on the environmental management plans so far.	Approx Rs.12.00 Crores. Year 2022 – 2023 : Rs. 3 Lakhs Year 2023 – 2024 : Rs. 3 Lakhs N.A Rs.7 crores Rs. 3 Lakhs
10. Forest land requirement a) The status of approval for diversion of forest land for non-forestry use b) The status of clear felling c) The status of compensatory a forestation, if any d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far	Nil Nil- Not related. NIL Nil NIL
11. The status of clear felling in non-forest areas (such as submergence area of reservoir,	Nil



approach roads), if any with quantitative information.	
12. Status of construction	
a) Date of commencement (Actual and/or planned)	1.10.2015
b) Date of completion (Actual and/or planned)	01-01-2021
13. Reasons for the delay if the Project is yet to start	-----
Date of site visited	
a) The dates on which the project was monitored by the regional office on pervious occasion. if any	----- -----
b) The date site visit for this monitoring report	

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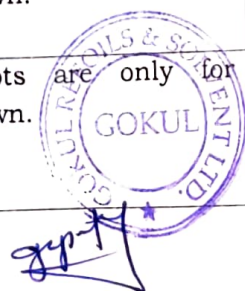


GENERAL CONDITIONS

Sr.No.	Conditions	Compliance
1.	<p>In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board.</p> <p>The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.</p>	<p>We will make any changes in the products, its capacity or manufacturing process, the applicant will get prior permission of this board.</p> <p>The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.</p>
2.	If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.	We agree if the product is in Schedule I or II of the audit plan of the environment, as specified in the Hon'ble 13/03/97 order. The High Court, MCA No. 326/97 in SCA No. 770/95 will also follow the scheme.
3.	The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license	We will be obtained necessary clearance from the statutory authorities.
4.	The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also co-ordinate the exercise of Environmental Audit and preparation of Environmental Statements.	We have already been appointed GPCB approved Environmental Consultant (which having approved laboratories with standard equipment and facilities, qualified staff) to carry out the Environmental Monitoring during construction and operational phase at their own premises.
5.	The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the	We are not applicable of P.L.I



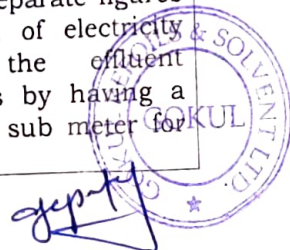
	copy of the same to the GPCB.	Policy as per P.L.I act-1991.
6.	<p>The concentration of Noise on ambient air within the factory premises shall not exceed the following limit:</p> <p>Between 6 AM to 10 PM : 75 dB (A)</p> <p>Between 10 PM to 6AM : 70 dB (A)</p>	<p>We are agreed of The concentration of Noise on ambient air within the factory premises shall not exceed the following limit:</p> <p>Between 6 AM to 10 PM : 75 dB (A)</p> <p>Between 10 PM to 6AM : 70 dB (A)</p>
7.	<p>The unit shall, on establishing this plant:</p> <p>a) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB.</p> <p>b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause</p>	<p>I agree that at the entrance are placed at the entrance and the name of the unit, the details of the product / process and the name of the entity / partners / directors of the unit, the number of electricity subscriber number and the name of the power are recorded at GEB As consumer.</p> <p>We are not applicably as plots are only for storage godown.</p>
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the this Board latest by 30 th September every year	Annual Environmental Audit will be carried out as per the GPCB norms
9.	The unit shall have and use only one outlet for discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	We are not applicably as plots are only for storage godown.
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	N/A as plots are only for storage godown.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	N/A as plots are only for storage godown.



12.	The pipeline connecting various equipments or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	N/A as plots are only for storage godown.
13.	In case of incinerators the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day	N/A as plots are only for storage godown.
14.	In case of plants involving Bio-mass Treatment. For each addition of the bio-mass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded everyday.	N/A as plots are only for storage godown.
15.	The printed log books shall be maintained and get it certified for:	Printed log books will be maintained and get certified by us for
	a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured.	a) N/A as plots are only for storage godown.
	b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures	b) N/A as plots are only for storage godown.
	c) Quantity of sludge generated	c) N/A as plots are only for storage godown.
	d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.	d) N/A as plots are only for storage godown.
16.	The unit shall operate full and efficiently all its effluent treatment plant/s and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether maintenance/ repairs/ electricity failure or otherwise) and shall not restart	We will strictly comply the condition in case of non-operational of STP for any reason whatsoever



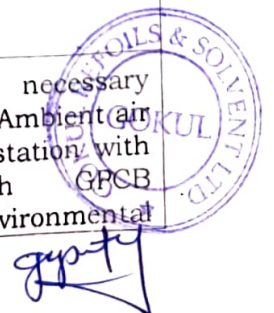
	such activities unless and until all the effluent treatment plants of the unit are fully operational.	
17.	<p>The unit shall have and operate all the requisite equipment / facilities for prevention and control of air pollution and shall operate the same.</p> <p>The unit shall also have stack monitoring facilities.</p> <p>Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing /processing activities unless and until all its air pollution protection and control equipments and facilities including stack monitoring facilities are fully operational.</p>	<p>We have already been operated all the requisite equipments/ facilities for prevention and control of air pollution.</p> <p>N/A as plots are only for storage godown.</p> <p>We will strictly comply the condition for air pollution protection and control equipments and facilities</p>
18.	The unit shall submit, before commencing the production to the GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing /processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on a board of adequate size within its compound and near its effluent treatment plant/s.	N/A as plots are only for storage godown.
19.	<p>The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis.</p> <p>The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants.</p>	<p>We will supply the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis to the GPCB.</p> <p>We will supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for</p>



	The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.	such effluent treatment plants. We will supply the number of units consumed by operating the diesel generating sets, if any to GPCB.
20.	The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.	We will submit the details of date of the commencement of work and the monthly electricity consumption report to GPCB within stipulated time period.
21.	The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.	We are already provided full support to GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the premises.
22.	It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system. The unit shall comply with all such instructions whether general or special.	We have already provided full support to GPCB officials during their visits at project site. Further, We will comply all such instruction given by statutory authorities during their visit at project site.
23.	When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution. a) The unit shall not use any diesel generating set or any other alternative	 a) We will not use any DG set



	<p>source of energy or water tankers from outside.</p> <p>b) The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far</p>	<p>or any other alternative source of energy or water tankers from outside.</p> <p>b) We will pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice.</p>
24.	<p>Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board.</p> <p>Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.</p>	<p>We will set up the adequate number of influent and effluent quality monitoring stations as per the GPCB norms.</p> <p>We have already appointed GPCB approved Environmental Consultant for carry out Environmental Monitoring at their own premises.</p>
25.	<p>Guards ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.</p>	<p>Adequate measures will be taken by us at their own premises.</p>
26.	<p>The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.</p>	<p>Necessary monitoring report will be submitted by us to statutory authorities on stipulated time periods.</p>
27.	<p>The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>we will strictly followed the air emission standards specified in this order.</p>
28.	<p>a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations</p>	<p>We will take necessary measures to set up Ambient air quality monitoring station with consultation with GPCB approved Environmental</p>



	should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.	Consultant
	b) Stack emissions from boiler and heater should be monitored for SO ₂ , NO _x , hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipments should be provided for measurement of SO ₂ and NO _x .	N/A as plots are only for storage godown.
	c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.	N/A as plots are only for storage godown.
	d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.	We will take adequate measures for control, regularly monitored and data record of fugitive emissions and same will be submitted to GPCB within stipulated time period.
29.	Low NO _x burner should be provided to avoid excessive formulation of NO _x . Only LSH will be used a fuel during the critical month to ensure that SO levels in the ambient air is within the norm Specified.	N/A as plots are only for storage godown.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	We will jointly arrange all the necessary arrangements for disposal of solid waste including safe storage and impermeable flooring and leachate collection and the unit will collect and handle solid waste according to the provisions of relevant rules on their behalf.
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Napthalene based product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification	We are Agreed .



	treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.	
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	The creation, storage and transport of hazardous chemicals will be according to the creation, storage and import of hazardous chemical regulations - 1989
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	we are not applicabal as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986 because as plots are only for storage godown.
34.	On-site and off-site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 should be prepared and approval from the Board should be obtained.	we are not applicabal as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 .
35.	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	We will take adequate measures for improving the socio-economic environment and report for the same will be submitted to the Board and Government for review.
36.	Periodical medical check up of the workers should be done and records maintained as a measures to provide occupational health service to the workers.	We have already been carried out periodical medical check up of the workers and maintained as a measures to provide occupational health service to the workers.
37.	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	We have already appointed GPCB approved Environmental Consultant for carry out Environmental Monitoring at their own premises.
38.	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	We have not been diverted the funds earmarked for the Environmental Protection Measures for any other purpose and year wise expenditure will be submitted to statutory along with six monthly compliance report.



 GOKUL INDUSTRIES LTD.

A & I HOSPITALITY PVT.LTD.

Ref. No. CMP/AIHPL/2022/012

Date: 01/12/2022

To,
Environment Management Cell,
DEENDAYAL PORT AUTHORITY,
Administrative Office,
PB No. 50, Gandhidham (Kutch),
Gujarat - 370201,

Sub. : Submission of EC & CRZ Half Yearly Report June-2022 to November-2022.

Ref.: EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/351/2012, dated 27/11/2012.

Dear Sir,

We are setting up the warehouse/Go-down at Plot No. 65.

Accordingly, please find enclosed here with point wise compliance report of the stipulated condition in EC/CRZ Clearance. (Encl. as **Annexure - A**)

Also find enclosed here with Detailed Compliance Report of CRZ Recommendation. (Encl. as **Annexure - B**), Detail Compliance Report of Consent to Establish (NOC). (Encl. as **Annexure - C**), Monitoring the Implemental Safeguards Data Sheet. (Encl. as **Annexure-D**), Also find enclosed here with Environmental Testing Report for the Month of October (As **Annexure-E**). ✓

We hope the above is in line with your requirements.

Thanking you

Yours sincerely,

M/s. A & I HOSPITALITY PVT. LTD.,

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

Authorized Signatory

347
06/12/22

Manager (Env)/Shri Padalia
EME
31/01/23

ANNEXURE - A

COMPLIANCE STATUS REPORT OF EC

EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/351/2012, dated 27/11/2012.

SUBJECT: Point wise compliance report of EC and CRZ clearance to Kandla Port Trust for development of plots for construction of warehouses / Go downs at plot no. 65 at

Kandla, Dist. Kutch Reg.

SR. NO.	BRIEF DESCRIPTION	COMPLIANCE REPORT
SPECIFIC CONDITIONS:		
1.	Kandla port trust [KPT] shall prepare a master document of terms and condition including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of warehouses/ Go-downs, KPT shall be the responsible for non-compliance or violation of any of the terms and conditions mentioned in the master document.	DPA has already prepared a master document of terms and conditions, which includes provisions for an environmental management plan, pollution mitigation measures, green belt development, and safety-related aspects, among other things, and will include it as part of the agreement deed with warehouse / Go-down bidders.
2.	KPT shall not allowed the storage of those material in warehouse and Go-downs, which are not permissible as per the CRZ Notification, 2011, as may be amended from time to time.	Complied, Only those materials are stored in Go downs that are authorized by the CRZ notification of 2011, as updated from time to time.
3.	The provision of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT. KPT shall carry out only permissible activities within the CRZ areas.	We strictly follow the CRZ Notification of 2011 and amended from time to time. We are carrying out only those activities Which are permissible as per CRZ notification, 2011 as amended from time to time. We are carried out only those activities in warehouse/ go downs, which are permissible as per CRZ notification, 2011 and amended from time to time.
4.	Mangroves plantation in an area of 200 ha. Shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and six monthly compliance report along with the satellite images and GPS readings with latitude and longitude shall be submitted to the Ministry of Environment and Forest as well as to this Department without fail.	The point has been noted and Complied.
5.	All necessary permission from different government departments/ Agencies shall be obtained by the KPT before commencing the expansion activities.	DPA has already been obtained NOC from GPCB, vide letter GPCB/CCA-KUTCH-789/GPCB ID: 29700/117726, Date. 17/07/2012. Further, GPCB has already

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

		extended the validity period up to 11/08/2021 vide provisional Letter dated 12/08/2016.
6.	No ground water shall be tapped for any purpose during the construction and operation phases.	We did not use any ground water during the construction phase or during the operation phase.
7.	No effluent and sewage shall be discharge into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused/ recycled within the premises.	There has been no sewage released into the sea/creek or the CRZ region. As DPA has already designated an area for a STP/Soak pit, it has treated the water to meet the Gujarat Pollution Control Board's standards and reused the treated water for the development of a greenbelt inside the grounds.
8.	The construction and operational activities shall be carried out in such a way that there are no negative impact son mangroves and other coastal / marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	We had done the construction activities in such a way that there are no any negative impacts on mangroves and other coastal / marine habitats. The construction and reclamation activities had been carried out as per suggestion/ recommendation given by the NIOT.
9.	KPT shall tack up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We've set aside a 10-meter-wide area on the periphery of our land for the establishment of a greenbelt.
10.	An environmental audit Report indicating the change if any, with respect to the baseline environment quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED as well as MoEF, GOI.	An Environmental Audit Report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment will be submitted to statutory authorities.
A-1	CONSTRUCTION PHASE:	
11.	KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No creeks or rivers have been blocked as a result of our construction activities.
12.	Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	During the construction period, we obtained water from the Narmada water supply pipeline via the GWSSB, and water consumption data were kept on a regular basis.
13.	All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	We made the essential arrangements for sanitation and sanitary measures, and we will continue to do so during the construction process.
14.	The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Necessary barricades with adequate height at periphery area of plots along with signage have been provided by us.
15.	Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	A measure for controlling fugitive emission has been provided by us at plot no. 65.
16.	Material shall be covered during transportation to avoid the fugitive emission.	For fugitive emission control, we covered the material with tarpaulin.
17.	The roads inside the project area and roads connected	Road inside the project area and roads

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

	to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	connected to the main road have been paved, and we have made the necessary arrangements to limit fugitive emissions during construction activities.
18.	Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	We made the necessary arrangements for drinking water and sanitary facilities, as well as fuel (Kerosene or cooking gas), utensils, crèches, canteens, rest rooms, a secure waste disposal system, first aid, medical, and emergency services. During the construction phase, personnel did not engage in any actions that harmed the existing environment.
19.	Adequate personal protective equipment shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	Necessary PPE have been provided to workers by us at plot no. 65 and the same have been monitored to usage of PPEs by labors.
20.	All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	We kept the entire topsoil dug during construction and used it to create a greenbelt on the property.
21.	The construction debris and/ or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	We have not disposed of any construction debris or any other type of waste into the sea, creek or in the CRZ areas. Construction debris has been removed immediately after construction activities completed and same will be disposed off as per the GPCB Norms/ construction and Demolition Rule, 2016 by successful plot allotted.
22.	The construction camp shall be located outside the CRZ area and construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	No construction camps are required at project site because only local people / labors are involved for the construction activities. No any environmental conditions have been deteriorated during construction carried out by us at plot no. 65.
23.	Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA rules for air and noise emission standards.	Noted and Agree with this.
24.	Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and should be operated only during non-peak hours.	Only those vehicles with a valid pollution control license issued by statutory authorities have been hired. Plot no. 65 is connected with national highway, so transporting activities are carried out only during day time by us.
25.	Ambient noise levels should confirm to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	No manufacturing activity involved. Only storage of non-hazardous dry cargo. Hence, no installation of any noise generation instrument / device. Attached the Ambient Air and Noise test report in Annexure-E .

For A & I Hospitality Pvt. Ltd.

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26.	Readymade mix concrete should be used so far as possible.	At plot no. 65, readymade mix concrete is being used, whenever required.
27.	Water demand during construction should be reduced by use of curing agents, pesticides and other best practices.	By implementing best practises, water usage throughout the building period was minimized.
28.	Fly ash should be used as building material in the construction as per provision of fly ash Notification under EPA.	Point noted.
29.	Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	At plot no. 65, the construction activities are carried out after getting the approval of layout plan from competent authority, following the seismic zone regulations.
30.	The construction material and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	We have already set aside space for storing and handling construction materials and debris in such a way that no detrimental effects on air, public transportation, or road traffic occur.
A-2 OPERATION PHASE:		
31.	Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Water requirement during Construction phase at Plot No. 65 is met through from Narmada pipeline during operation phase. We have maintained the records for water consumption at our premises.
32.	Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP. Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose. Dual pumping system with separate tanks and lines shall be provided for reuse of treated sewage.	Complied with this condition.
33.	Low water consuming devices shall be provided. Fixtures for showers, toilets, flushing and drinking shall be of low flow either by use of aerators/ diffusers/ pressure reducing devices etc.	We have started the operation, and we have made the necessary steps to reduce water use.
34.	The municipal solid waste shall be properly collected and segregate at source. Recyclable waste shall be sold off to vendors whereas non-recyclable wastes shall be disposed through the local body.	We are collect and segregate the Municipal solid waste as per the solid waste management rule, 2016.
35.	Hazardous waste i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the hazardous waste (Management, Handling and Transboundary movement) Rules 2008, as may be amended from time to time.	NA, as only Non-hazardous dry cargos are to be stored as permissible in CRZ Notification, 2011.
36.	The stack height of DG sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the DG sets shall	Not applicable as DG set is not installed by us at plot no. 65.

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	conform to the standards prescribed by GPCB. At no time, the emission level shall go beyond the stipulated standards.	
37.	The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, etc. and the noise level shall be maintained as per the MoEF/ CPCB guidelines/ norms both during day and night time.	Not applicable as DG set is not installed at plot no. 65.
38.	The green belt shall be developed along the boundary and internal roads. The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety. The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose. Drip irrigation/ low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.	We have already been earmarked area for development of greenbelt at periphery area of our own premises and also developed the greenbelt in earmarked area. We do meet the condition. We will not altered green earmarked area for any other purpose. We do meet the condition.
39.	Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent. The area earmarked for parking shall be used for parking only. No other activity shall be permitted in this area.	We have already earmarked the area for parking places as per the norms and no any other activities are being carried out in the parking area.
40.	No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors to the parking. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.	No any public space has been used or blocked for parking at plot no. 65 during the operational phase. Further, same will be monitored by qualified staff. No congestion near the entry and exit points from the roads adjoining the plots will take placed by us during operation phase.
41.	The project proponent shall install the electric utilities / devices, which are energy efficient and meeting with bureau of Energy Efficiency norms, whenever applicable. Energy conservation building code (ECBC) norms shall be implemented in the project.	We have started the operation and we will install energy efficient electric utilities/ devices that meet the Bureau of Energy Efficiency criteria where applicable. We do meet the condition.
42.	The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project. Solar lights shall be provided in the open sunlight area.	Noted and we are complied with this. Shall be complying.
43.	The energy audit shall be conducted at regular	Not Applicable.

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Director

	interval for the project and the recommendation of the Audit Report shall be implemented with spirit.	
44.	Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines. Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	Adequate measures have been taken by us for fire and life safety as per the provisions of the NBC at plot no. 65. We have already earmarked the area/ open passages for free movement of the fire tender/ emergency vehicle around the premises.
45.	The project management shall prepare a detailed Disaster Management Plan (DMP) for the operation phase of the project.	The disaster management plan (DMP) is currently being developed, and once completed, it will be presented to the appropriate authorities and followed as needed.
46.	Necessary emergency lighting system along emergency power back up system shall be provided. In addition emergency siren and public address system arrangement shall be provided in the township. Necessary signage/ maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.	We have provided the Emergency lighting system along with power back up system. We have provided the emergency siren/public address system arrangement at identified area at Plot No. 65. We have also provided the necessary signage/maps at all appropriate places to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.
47.	Compulsory training to the staff for the first aid and fire-fighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	We have provided the adequate training of first aid and fire-fighting along with regular mock drill to the all employees with the necessary training of emergency management strategy.
48.	First Aid Boxes shall be made readily available in adequate quantity at all the times.	We have provided the adequate quantity of First aid Rooms/Boxes at Plot No. 65.
49.	The project proponent shall ensure maximum employment to the local people.	Law of land shall be followed by us.
50.	The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	We are strictly complied with all the environment Protection measures, risk mitigation measures and safeguards at our own premises.

OTHER CONDITIONS:

51.	A separate Environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction phase and operational phase of the project.	Not applicable, as only storage and warehouse activity is carried out at plot no. 65.
52.	All the recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by KPT.	The recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment have been strictly followed.
53.	KPT shall participate financially for installing and	DPA has contribution an amount of Rs.

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	operating the vessel traffic management system in the Gulf of Kutch and shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	41.25 Crore, i.e. 25% of total project cost of Rs. 165 Crore for installation and operating the VTMS in Gulf of Kutch. DPA has also participated for preparing and operationalizing the Oil Spill Contingency plan in Gulf of Kutch.
54.	KPT shall have to contribute financially for taking up the socio-economic up-liftment activities in this region in consultation with the forests and Environment Department and the District Collector/ District Development Officer.	Point noted and will be comply by DPA.
55.	KPT shall contribute financially for any common study or project that may be proposed by the Forests and Environment Department (F&ED) for environment management/ conservation/ improvement for the Gulf of Kutch.	We have contributed financially for any common study or project that may be proposed by F&E department for environmental management/ conservation/ improvement of Gulf of Kutch.
56.	KPT shall bear the cost of the external agency that may be appointed by F&ED/ SEIAA for supervision / monitoring of proposed activities and the environment impacts of the proposed activities.	DPA complied with this condition.
57.	KPT shall have to contribute financially to support the National Green Crops Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar in consultation with Forests and Environment Department.	DPA has met the Condition.
58.	A separate budget shall be earmarked for environmental management and socio economic activities including the greenbelt/ mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	We have earmark separate budget for environmental protection& Socio economic activity including the greenbelt/ mangrove plantation.
59.	Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	No any vehicles movement in this inter tidal zone have been carried out by plot no. 65.
60.	A six month report on compliance of the stipulated conditions shall have to the regulatory authorities concerned, on 1 st June and 1 st December of each calendar year.	Six monthly reports are submitted by us on regular basis. Here we have attached the last submission acknowledgement copy in Annexure-F.
61.	No further expansion and modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.	We are not extended, modified or developed the plot no. 65.
62.	Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to complied with by the KPT.	Will be complied accordingly.
63.	The project authorities shall earmark adequate funds to implement the conditions stipulated by the SEIAA as well as GPCB along with the implementation	Point noted.

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 Director

	schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	
64.	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be sent at the website of SEIAA/SEAC/GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional office of the Ministry.	DPA has already informed to the public that the project has been accorded Environmental Clearance from SEIAA and copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC. DPA has already been published advertisement in Times Of India and Kutch Mitra, dated. 05/01/2013. A copy of the same has already been submitted by DPA to Regional office, Bhopal, MoEF vide letter no. : EG/WK/4716(EC)/part-I/640, dated 14/01/2013.
65.	The project authority shall also adhere to the stipulations made by the Gujarat pollution Control Board.	We are strictly adhered the stipulation made by the GPCB.
66.	The project authority shall inform the GPCB, Regional office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Point noted.
67.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above condition is not found satisfactory.	Point noted.
68.	The above condition will be enforced, inter-alia under the provision of the water (Prevention and control of pollution) Act, 1974, the Air (prevention and control of pollution) act, 1981, the Environmental (Protection) Act, 1986, Municipal solid wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the rules made under from time to time.	Point noted.
69.	This environment clearance is valid for five years from the date of issue.	Point noted.

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

ANNEXURE -B

**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Go-downs – Stage II at Kandla,
Dist.: Kutch by M/S Kandla Port Trust Limited- Reg.**

STATUS OF COMPLIENCE OF THE CONDITIONS STIPULATED BY GUJARAT STATE COASTAL
ZONE MANAGEMENT AUTHORITY, GANDHINAGAR IN CRZ RECOMMENDATIONS LETTER.

SR. NO.	CONDITIONS IN CRZ RECOMMENDATION LETTER	COMPLIANCES
	<u>SPECIFIC CONDITIONS</u>	
1.	The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	We are strictly following the provisions of the CRZ notification of 2011 and subsequent amendments issued from time to time. We are carrying out only those activities which are permissible under CRZ Notification, 2011 and subsequent amendments from time to time.
2.	KPT shall participate financially for installing and operating the vessel traffic management system in the Gulf of Kutch and shall also take lead in preparing and operational zing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	DPA has contribution an amount of Rs. 41.25 Crore, i. e. 25% of total project cost of Rs.165 Crore for installation and operating the VTMS in Gulf of Kutch. DPA has also participated for preparing and operational zing the Oil Spill Contingency plan in Gulf of Kutch.
3.	KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked due to construction activities.
4.	Mangroves plantation in an area of 200 ha. Shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and six monthly compliance report along with the satellite images and GPS readings with latitude and longitude shall be submitted to the Ministry of Environment and Forest as well as to this Department without fail.	Point noted and will be complied accordingly.
5.	No ground water shall be tapped for any purpose during the proposed expansion/ modernization activities.	No any ground water has been tapped for any purpose by us at Plot No. 65.
6.	All necessary permission from different government departments/ Agencies shall be obtained by the KPT before commencing the expansion activities.	DPA had already been obtained NOC from GPCB, vide letter GPCB/CCA-KUTCH-789/GPCB-ID:29700/117726, dt.17/07/2012 and subsequent letter, date. 12/08/2016 had extended the validity period up to 11/08/2021.

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Director

7	No effluent and sewage shall be discharge into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extend feasible.	No any sewage has been discharged into the sea/creek or in the CRZ area. As DPA have already earmarked the area for STP/Soak pit and it has treated to conform to the norms prescribed by the Gujarat Pollution Control Board and reused the treated water for developed of greenbelt within premises.
8	All the recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by KPT.	We strictly adhere to the NIOT's recommendations and proposals in their Environment Impact Assessment Report for environmental conservation, protection, and improvement.
9	The construction and operational activities shall be carried out in such a way that there are no negative impact son mangroves and other coastal / marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	Construction activity on plot no. 65 was done in such a way that no detrimental affects on mangroves or other coastal / marine ecosystems were experienced. The construction and reclamation activities will be/have been carried out in accordance with the NIOT's recommendations and proposals.
10	KPT shall contribute financially for any common study or project that may be proposed by the Forests and Environment Department (F&ED) for environment management/ conservation/ improvement for the Gulf of Kutch.	DPA/We are contribute financially for common study or project that may be proposed by F&E department for environmental management/ conservation/ improvement for the Gulf of Kutch.
11	The construction debris and/ or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	At plot no. 65 we have not disposed of any construction debris or any other type of waste into the sea, creek or in the CRZ areas.
12	The construction camp shall be located outside the CRZ area and t6he construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	No construction camps are required at project site because only local people / labors are involved for the construction activities during construction phase. No any environmental conditions have been deteriorated during construction carried out by us at plot no. 65.
13.	KPT shall bear the cost of the external agency that may be appointed by F&ED/ SEIAA for supervision / monitoring of proposed activities and the environment impacts of the proposed	We shall cover the costs of any external agency that this department may select to supervise/monitor proposed activities and

For A & I Hospitality Pvt. Ltd.
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 Director

	activities.	their environmental implications.
14.	The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We have set aside an area of 10 meters wide at the boundary of plot no. 65 for the creation of a greenbelt.
15.	The KPT shall have contributed financially for taking up the socio-economic upliftment activities in this region in consultation with the FE Department/ District collector/ DDO.	Noted and Complied.
16.	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall be also be furnished.	We have established a distinct budget for environmental protection. Budget details for Environmental Management and socioeconomic activities have been periodically presented to statutory authorities.
17.	A separate Environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction phase and operational phase of the project.	Not applicable, as only dry cargo is stored and handled at plot no. 65.
18.	An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	Noted and agreed.
19.	The KPT shall have to contribute financially to support the national green crops scheme being implements in by Green Foundation, in consultation with forest and environmental department.	We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
20.	A six monthly report of compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF, GOI.	Six monthly reports are submitted by us on regular basis. Here we have attached the last submission acknowledgement copy in Annexure-F .
21.	Any other condition that may be stipulated by this department from time to time for environmental protection/ management purpose shall have to be complies with by the KPT.	We are strictly complying with any other condition that may be stipulated by F&ED from time to time for environmental protection / management purpose.

For A & I Hospitality Pvt. Ltd.

Sapna R. J.
Director

ANNEXURE -C

COMPLIANCE REPORT OF NOC FOR THE PROJECT ENTITLED

"Development of plots for construction of Warehouse/Godowns-Stage II"

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We are strictly complied with all the conditions as prescribed in our Environmental and CRZ clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	No any ground water has been tapped by us.
3.	CONDITIONS UNDER WATER ACT, 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	This project is only for the storage of non-hazardous dry goods, hence it is not applicable. As a result, no industrial effluent is generated on the property.
3.2	The quantity of the domestic waste water (Sewage) shall not exceed NIL.	Not Applicable.
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water - Cess Act-1977 schedule II) consumption of water.	Not Applicable.
4	CONDITIONS UNDER THE AIR ACT 1981:	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	Not applicable as No any manufacturing activity involved. Only storage of Non-Hazardous dry cargo.
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	No manufacturing activity involved. Only storage of Non-Hazardous dry cargo.

For A & I Hospitality Pvt. Ltd.
Sapna R-Z
Director

SR. NO.	CONSENT CONDITION POINTS		COMPLIANCE	
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:				
4.4	The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder.		Ambient Air quality within plant premises have been confirmed to the prescribed norms. Refer Annexure-E.	
	Pollutant	Time weighted average		Concentration in ambient air in µg/M3
	Sulphur Dioxide (SO ₂)	Annual 24 hours		50 80
	Nitrogen Dioxide (NO ₂)	Annual 24 hours		40 80
	Particulate Matter (Size less than 10 µm) OR PM10	Annual 24 hours		60 100
	Particulate Matter (Size less than 2.5 mm) OR PM 2.5	Annual 24 hours		40 60
4.5	The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and70 dB (A) during night time, Daytime is reckoned in between 6a.m. and10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.		Noise level within plant premises have been confirmed the prescribed limit. Refer Annexure-E.	
5	CONDITIONS UNDER HAZARDOUS WASTE:			
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 as amended from time to time.		NA, As only non-hazardous dry cargos are to be stored as permissible in CRZ Notification, 2011.	
5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.			
6	GENERAL CONDITIONS :			
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.		We have developed the adequate green belt within premises of plot no. 65.	

For A & I Hospitality Pvt. Ltd.

Sapna R. Z.
Director

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	We do meet the condition.
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.	We do meet the condition.
6.4	In case of change of ownership /management the name and address of the new owners / partners /directors/ proprietor should immediately be intimated to the Board.	We are immediately intimate to GPCB in case of change of ownership/ management the name and address of the new owners/ partners/ directors/ proprietor.
6.5	The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant.The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the AirAct-1981 and the Environment (Protection) Act-1986.	Noted and shall be complied.
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	Noted and compiled with applicable general condition. (Refer Annexure-I)
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	Complied. No manufacturing activity involved. Only storage of Non-Hazardous dry cargo.
6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986.	NA, The unit handled only non-hazardous dry cargo for storage.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.	Point Noted and will be complied.

For A & I Hospitality Pvt. Ltd.

Sapna. R.T.
Director

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	Point Noted and will be complied.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	No any ground water has been tapped by us.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	We so meet the condition.
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	We have appointed the GPCB approved Environmental Consultant for carry out Environmental Monitoring at Plot No. 65.

For A & I Hospitality Pvt. Ltd.
Sapna R-Z
 Director

Annexure - I

GENERAL CONDITIONS

SR. NO.	CONDITIONS	COMPLIANCE
1.	In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board. The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.	Point Noted and will be complied.
2.	If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.	Noted and Complied.
3.	The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license.	Point Noted
4.	The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also coordinate the exercise of Environmental Audit and preparation of Environmental Statements.	Not Applicable, The unit handled only non-hazardous dry cargo for storage.
5.	The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the copy of the same to the GPCB.	Point Noted and copy already submitted with earlier report.
6.	The concentration of Noise on ambient air within the factory premises shall not exceed the following limit: Between 6 AM to 10 PM : 75 dB (A) Between 10 PM to 6AM : 70 dB (A)	We do meet the Condition.
7.	The unit shall, on establishing this plant: a) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB. b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause	Noted and Complied. Point Noted
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the Board latest by 30th September every year.	Point Noted
9.	The unit shall have and use only one outlet for discharge of its	Not Applicable.

For A & I Hospitality Pvt. Ltd.

S. S. S. S.
Director

	effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	There is no any Industrial Effluent discharged by our unit.
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	N.A.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	N.A.
12.	The pipeline connecting various equipment's or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	N.A.
13.	In case of incinerators the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day.	N.A.
14.	In case of plants involving Bio-mass Treatment. For each addition of the biomass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded every day.	N.A.
15.	The printed log books shall be maintained and get it certified for: a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured. b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures c) Quantity of sludge generated d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.	N.A.
16.	The unit shall operate full and efficiently all its effluent treatment plants and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether Maintenance/ repairs/ electricity failure or otherwise) and shall not restart such activities unless and until all the effluent treatment plants of the unit are fully operational.	N.A.
17.	The unit shall have and operate all the requisite equipment's/ facilities for prevention and control of air pollution and shall operate the same. The unit shall also have stack monitoring facilities. Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non-functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing/processing activities unless and until all its air pollution protection and control equipment's and facilities including stack monitoring facilities are fully operational.	NA, The unit handled only non-hazardous dry cargo for storage.
18.	The unit shall submit, before commencing the production to the	NA, The unit

For A & I Hospitality Pvt. Ltd.
Sapna R-Z
 Director

	GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing /processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on aboard of adequate size within its compound and near its effluent treatment plant/s.	handled only non-hazardous dry cargo for storage. Complied whenever is applicable.
19.	The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis. The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants. The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.	We do meet the Condition.
20.	The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.	Point Noted. However this is the unit of storage / warehouse/ go-downs
21.	The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.	We do meet the Condition.
22.	It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system. The unit shall comply with all such instructions whether general or special.	We do meet the Condition.
23.	When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution. The unit shall not use any diesel generating set or any other alternative source of energy or water tankers from outside. The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far.	Point Noted and we will complied with this whenever is applicable.

For A & I Hospitality Pvt. Ltd.

Sapna R. Z.
Director

24.	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board. Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.	NA, The unit handled only non-hazardous dry cargo for storage. So, No any effluent generation from unit.
25.	Guards' ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non-functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.	N.A.
26.	The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.	N.A.
27.	The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.	Not applicable. No manufacturing activities are involved. Only storage of Dry Cargo as permitted in the CRZ notification, 2011.
28.	<p>a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.</p> <p>b) Stack emissions from boiler and heater should be monitored for SO₂, NO_x, hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipments should be provided for measurement of SO₂ and NO_x.</p> <p>c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.</p> <p>d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.</p>	<p>Point Noted and complied.</p> <p>N.A.</p>

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

29.	Low NOx burner should be provided to avoid excessive formulation of NOx. Only LSH will be used as a fuel during the critical month to ensure that SO levels in the ambient air is within the norm specified.	N.A.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	Noted and Agreed
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Naphthalene based product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.	N.A.
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	Not applicable. There is no generation of any Hazardous waste.
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	Not applicable. There is no generation of any Hazardous waste.
34.	On-site and off-site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules-1989 should be prepared and approval from the Board should be obtained.	Not applicable. There is no generation of any Hazardous waste.
35.	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	Point Noted
36.	Periodical medical check-up of the workers should be done and records maintained as a measure to provide occupational health service to the workers.	Point Noted and complied.
37.	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	Point Noted.
38.	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	Point Noted and complied.

For A & I Hospitality Pvt. Ltd.

Sapna R. Director

ANNEXURE - D

MONITORING REPORT (December -2021 to May -2022)

Part - 1

DATA SHEET

SR. NO.	PARTICULARS	COMPLIANCE
1.	Project type : River valley/ Mining/ Industry/thermal/nuclear/Other (specify)	Warehouses /go-downs
2.	Name of the project	M/s. A & I HOSPITALITY PVT. LTD.
3.	Clearance Letter (s). OM no and date	Environment and CRZ clearance issued by SEIAA, Government of Gujarat, vide letter No. SEIAA/GUJ/EC/8(b)/351/2012, date: 27/11/2012
4.	Location	Plot No. 65, Outside Kutch salt west gate, New Kandla, Dist : Kutch, State : Gujarat
5.	Address for Correspondence a) Address of Concerned Project Chief Engineer (with pin code & telephone/telex/fax numbers b) Address of Executive project Engineer/manager/(with pin code fax numbers)	Mr. Ram Issrani Director, 217, Ganesh Glory, Jagatpur, S.G. Highway, Ahmadabad - 382481
6.	Salient features of the project b) Salient features of the Environmental management plan.	<p>1. Warehouse stage II consist of development of plot no.65 of total area of 15,690 m².</p> <p>2. It is proposed to construct 7,826 m² of storage area consisting of go-downs, office, etc.</p> <p>3. This warehouse mainly used for storage of non-hazardous dry cargo.</p> <p>1. Master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed have been made between Allottee of plot no. 65 and DPA.</p> <p>2. DPA has signed the MoU with GEC for</p>

For A & I Hospitality Pvt. Ltd.

Sapner R.T.
Director

		<p>Mangrove Plantation in an area of 300 Hac., out of which mangrove plantation in 150 Hac. Has been completed.</p> <p>3. Vehicles have been covered with tarpaulin for controlling the fugitive emission during the transportation of material at plot No. 65.</p> <p>4. Roads inside the plot No. 65 and connected to main road are paved to control the fugitive emissions during construction activities.</p>
7.	<p>Breakup of the project area</p> <p>a) Submergence area : forest & non-forest</p> <p>b) Others</p>	<p>Nil</p> <p>Nil</p>
8.	<p>Breakup of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen</p> <p>a) SC. ST/Adivasis</p> <p>b) Others</p>	<p>Nil</p> <p>Nil</p>
9.	<p>Financial details</p> <p>a) Project cost as originally planned and subsequent revised estimates and the year of prices reference</p> <p>b) Allocation made for environmental management plans with item wise and year wise break-up</p> <p>c) Benefit cost ratio/Internal rate of Return and the year of assessment Whether (c) includes the cost of environmental management plans so far.</p> <p>d) Actual expenditure incurred on the project</p> <p>e) Actual expenditure incurred on the Environmental management plans so far.</p>	<p>Planned Project Cost: 18.31 Cr.</p> <p>Planned EMP Cost: 3.0 Lakh</p> <p>N.A.</p> <p>Actual Project Cost: 18.31 Cr.</p> <p>Actual provided fund for EMP: 2.4 lakh</p>
10.	<p>Forest land requirement</p> <p>a) The status of approval for diversion of forest land for non-forestry use</p> <p>b) The status of clear felling</p>	<p>Nil</p> <p>Nil-Not related</p> <p>Nil</p>

For A & I Hospitality Pvt. Ltd.

Sapna R-Z
Director

	c) The status of compensatory a forestation, if any d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far	Nil Nil
11.	The status of clear felling in non-forest areas (such as submergence area of reservoir, approach roads), if any with quantitative information.	Nil
12.	Status of construction a) Date of commencement (Actual and/or planned) b) Date of completion (Actual and/or planned)	01/08/2015 01/01/2019
13.	Reasons for the delay if the Project is yet to start	---
14.	Date of site visited a) The dates on which the project was monitored by the regional office on pervious occasion. if any b) The date site visit for this monitoring report	---

For A & I Hospitality Pvt. Ltd.
Sapna R. Z.
 Director

ANNEXURE - E

Environmental Monitoring Report

Report No: EE/ENV/2022/10/096

Date: 31/10/2022

ANALYSIS REPORT
(For the Month of October-2022)

Client Details		Sample Details	
Name	M/s. A & I Hospitality Pvt. Ltd.	Sample Code	AIHPL/AA1
Address	Plot No. 65, Outside Kutch Salt West Gate, New Kandla, Dist : Kutch, Gujarat	Location	Near Plot No. 65
		Quantity	N/A
Sampling Done By	Earth Envirotech Team	Date of Sampling	27/10/2022
Analysis Starts on	28/10/2022	Sampling Method	IS 5182 (Part 5): 2020 – Gaseous Pollutants IS 5182 (Part 23): 2017 - PM ₁₀ CPCB manual volume I - PM _{2.5}
Analysis Completion On	31/10/2022	Sample Received Date	27/10/2022

AMBIENT AIR MONITORING RESULTS

Sr. No.	Parameters	Unit	Results	National Ambient Air Quality Standards (NAAQS)	Reference Method
			Nr. Plot No. 65		
1.	Particulate Matter PM ₁₀	µg/m ³	60.39	100	IS 5182 Part 23 : 2017
2.	Particulate Matter PM _{2.5}	µg/m ³	22.67	60	CPCB manual Volume I
3.	Sulphur Dioxide (SO ₂)	µg/m ³	16.51	80	IS 5182 Part 2 : 2017
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	21.80	80	IS 5182 Part 6 : 2017

chez
Analyzed By:



- Analysis is subject to the condition In Which the Sample Is received at our Laboratory.
- Reports can not be used as an evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till one month from the date of sampling.

Report No: - EE/ENV/2022/10/097

Date: 31/10/2022

ANALYSIS REPORT
(For the Month of October-2022)

Client Details		Sample Details	
Name	M/s. A & I Hospitality Pvt. Ltd.	Sample Code	AIHPL/N1
Address	Plot No. 65, Outside Kutch Salt West Gate, New Kandla, Dist : Kutch, Gujarat	Location	As per table
		Quantity	NA
		Date of Measurement	27/10/2022
Measurement Done By	Earth Envirotech Team	Sampling Instrument	Sound Level Meter (HTC/SL-1350)
Measurement Completion Date	27/10/2022		
		Sampling Method	IS 9989 : 2020

NOISE MONITORING RESULTS

Sr. No.	Location Name	Units	Day Time	
			Observed Value	Standard Limit
1.	Near Plot No. 65	dB (A)	69.4	75.0


Checked By:

- Analysis is subject to the condition in which the sample is received at our Laboratory.
- Reports can not be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 days from the date of sampling.

ANNEXURE - F

(Submission acknowledgement copy)

A & I HOSPITALITY PVT.LTD.

Ref. No. CMP/AIHPL/2022/006

Date: 18/06/2022

To, *SE (Land)*
Environment Management Cell,
DEENDAYAL PORT TRUST,
Administrative Office,
PB No. 50, Gandhidham (Kutch),
Gujarat - 370201,

Sub. : Submission of EC & CRZ Half Yearly Report December-2021 to May-2022.

Ref.: EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/351/2012, dated 27/11/2012.

Dear Sir,

We are setting up the warehouse/Go-down at Plot No. 65.

Accordingly, please find enclosed here with point wise compliance report of the stipulated condition in EC/CRZ Clearance. (Encl. as **Annexure - A**)

Also find enclosed here with

Detail Compliance Report of CRZ Recommendation.(Encl. as **Annexure - B**), Detail Compliance Report of Consent to Establish (NOC).(Encl. as **Annexure - C**), Monitoring the Implemental Safeguards Data Sheet.(Encl. as **Annexure-D**), Also find enclosed here with Environmental Testing Report for the Month of March-2022 (As **Annexure-E**).

We hope the above is in line with your requirements.

Thanking you

Yours sincerely,

M/s. A & I HOSPITALITY PVT. LTD.,

H. D. Lunn



Authorized Signatory



act infraport ltd.

Infrastructure Development Logistics Shipping Clearing & Forwarding Cargo Handling
Plot No. 391 & 392, Sector 1/A, Near Mamlatdar's Office,
Gandhidham- 370 201. Kutch, Gujrat – India.
Tel.: +91-2836-229967, 231734, 239743
Fax: +91-2836-238864
Email : info@actship.com

Ref: ACT/HY/KPT/Submission/Nov/2022.
Date: 30.11.2022

S.E. (Kandla Land),
Deendayal Port Trust,
Gandhidham (Kutch).

Dear Sir,

**Sub : Submission of Half-Yearly Returns of Environment & CRZ clearance :
Plot No. 49 for construction of warehouse outside WG- 1 of Kandla Port.**

We are enclosing the following Compliance Returns for the period from June 2022 to November, 2022 as required on the subject:-

- ✓ 1. Data Sheet.
- ✓ 2. Compliance EC CRZ Godown.
- ✓ 3. CRZ Recommendation Godown.
- ✓ 4. NOC Compliance Report Godown.
- ✓ 5. General Conditions (Final).

We are also sending a copy of Environment Monitoring report for Noise and Ambient Air from Earth Envirotech, Gandhidham.

Kindly acknowledge the receipt.

Thanking you,

Yours faithfully,
For act infraport ltd.,

Authorised Signatory

Encl: As Above.



[Handwritten signatures]

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30/11/22

We act with confidence

Regd. Office : 14, Shipping House, Gr. Floor, Kumbhta Street, Fort, Mumbai – 400 001

Monitoring the implemental Safeguards Ministry of Environment & Forests.
Regional Office (W), Bhopal.

Monitoring Report (From June, 2022 to November, 2022)

Part-1

DATA SHEET

1.	Project Type : River Valley/Mining/Industry/ thermal/nuclear/other (Specify)	Infrastructure and Miscellaneous Projects + CRZ.
2.	Name of the Project	Construction of Warehouses
3	Clearance Letter (s). OM No. & Date	Environment / CRZ Clearance issued by SEIAA, Govt. of Gujarat.
4.	Location a) District (s) b) State (s) c) Location/Latitude/Longitude	Plot No. 49, Outside West Gate No.1 of Kandla Port, New Kandla Dist: Kutch State : Gujarat
5.	Address for Correspondence a) Address of concerned project Chief Engineer (with pin code & Tel./Telex/Fax Nos. b) Address of Executive Project Engineer (with pin code & Tel./Telex/Fax Nos.	ACT Infraport Ltd., Plot No. 391/392, Sector 1/A, Gandhidham – Kutch. Gujarat P: Pin – 370 201 P.H Joshi & Associates, “Rishab Corner”, Office No.217, 2 nd Floor, Near Gymkhana, Gandhidham (Kutch)- 370 201. Tel : 02836-227813 (O) Mob. 9825226278 Same as above
6.	Salient features of the project a) Salient features of Environmental management plan	Construction of Warehouse at Plot No. 49, which be used for storage of Agricultural produce & General Cargo. The requirement of Master Documents, which is part of Lease Deed, regarding Environmental Management Plan, Pollution Mitigation Measures, Green belt Development and safety related aspects, will be followed.
7.	Break-up of the project area. a) Submergence area : Forest/Non-forest b) Others	Non-Forest Nil Nil

8.	<p>Break-up of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen.</p> <p>a) SC.ST/Adivasis</p> <p>b) Others</p> <p>(Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures. If a survey is carried out, give details and years of survey.)</p>	N.A.
9.	<p>Financial details</p> <p>a) Project cost as originally planned and subsequent revised estimates and the year of prices reference.</p> <p>b) Allocation made for environmental management plans with item wise and year wise break-up.</p> <p>c) Benefit cost ratio/Internal rate of Return and the year of assessment. Whether (c) includes the cost of environmental management plans so far.</p> <p>d) Actual expenditure incurred on the project.</p> <p>e) Actual expenditure incurred on the environmental management plans so far.</p>	<p><u>Rs.11.41 Crores</u> (spent upto 30-11-2021)</p> <p>Rs.1.25 Lakhs for plantation during 2022-23 and for maintenance & Upkeep of Green Belt Area.</p> <p>--</p> <p><u>Rs.11.41 Crores</u> (spent upto 30-11-2021)</p> <p>----</p>
10.	<p>Forest land requirement.</p> <p>a) The status of approval for diversion of forest land for non-forestry use.</p> <p>b) The status of clear felling</p> <p>c) The status of compensatory aforestation, if any.</p> <p>d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far.</p>	<p>N.A.</p> <p>N.A</p> <p>N.A</p> <p>N.A.</p>
11.	<p>The status of clear felling in non-forest areas (such as submergence area of reservoir approach roads) if any with quantitative information.</p>	N.A

12.	Status of construction .	
	a) Date of commencement (Actual and/or planned).	01.11.2015
	b) Date of completion (Actual and/or planned)	30.04.2018.
13.	Reasons for the delay if the project is yet to start	N.A.
14.	Date of site visited.	
	a) The dates on which the project was monitored by the regional office on previous occasion, if any.	N.A. -----
	b) The date site visit for this monitoring report	

For ACT Infraport Ltd

Authorised Signatory



PART II & III OF REPORT

June 2022 to November 2022

SUBJECT : Point wise compliance report of EC and CRZ Clearance to Deendayal Port Trust for development of plots for construction of Warehouses / Godowns (Stage II) at Kandla, Dist. Kutch Reg.

SEIAA, Gujarat vide their letter no. SEIAA/GUJ/EC/8(b)/351/2012 dated 27/11/2012 had granted Environment and CRZ Clearance for the subject project at Deendayal Port Trust.

<u>SPECIFIC CONDITION</u>	
1. Deendayal Port Trust [KPT] shall prepare a master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of Warehouses / Godowns. KPT shall be the responsible for non compliance or violation of any of the terms & conditions mentioned in the master document.	We have executed lease deed which included Master Document for Plot No.49 for Construction of Godown to be used for storage of Cargo. All terms & condition of Lease Deed & Master Documents will be followed.
2. KPT shall not allow storage of those materials in Warehouses / Godowns, which are not permissible as per the CRZ Notification, 2011, as may be amended from time to time.	We shall not use godown for storage of material, which are not permissible as per CRZ notification, 2011, as may be amended from time to time.
3. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT. The KPT shall carry out only permissible activities within the CRZ areas.	Provisions of CRZ Notification will be strictly followed.
4. Mangroves plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Deendayal Port	Will be complied to the extent of Plan Approved by DPT

Trust area and six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the Ministry of Environment and Forests as well as to this Department without fail.	
5. All necessary permissions from different Government Departments / agencies shall be obtained by the KPT before commencing the expansion activities.	To be complied with by DPT. Necessary permission from concerned authorities for expansion in future will be obtained by us.
6. No ground water shall be tapped for any purpose during the construction and operation phases.	No ground water is being tapped for operation phase.
7. No effluent or sewage shall be discharged into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the premises.	No sewage will be discharged into the sea/ creek or in the CRZ area and the same shall be treated for use in Green belt area.
8. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	The operational activities will be carried out in such a way that there are no negative impact on mangroves and other coastal/marine habitats.
9. KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	Sufficient area has been earmarked at the periphery area of our plot for development of Green belt.
10. An Environmental Audit Report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED, SEIAA as well as MoEF, GOI.	To be complied by DPT.

A.1 CONSTRUCTION PHASE:

11.KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No creek or river has been blocked during construction activities in the plot, allotted to us.
12.Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	We have made arrangements with local suppliers for water requirement.
13.All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	Necessary arrangements for sanitation and hygienic measures have been made in the plot and the same will be maintained throughout operational phase.
14.The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	No action required to be taken as construction of godown is completed.
15.Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Measures for Controlling fugitive emission have been taken. Water sprinkling will be done whenever needed.
16.Material shall be covered during transportation to avoid the fugitive emission.	Vehicles are being/ will be covered with tarpaulin for controlling the fugitive emission during the transportation of material.
17.The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	The Roads inside the project area are connected to main road, which will be paved and necessary arrangement have been made to control the fugitive emissions during construction activities.
18.Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	Necessary arrangement for drinking water & sanitation, first aid, medical and emergency facilities have been made by us to ensure that existing environmental conditions are not deteriorated.
19.Adequate personal protective	No action as work is completed.

equipments shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	
20.All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	No action required, as construction of godown is completed.
21.The construction debris and /or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	No action required, as construction of godown is completed.
22. The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	No action required, as construction of godown is completed.
23. Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA Rules for air and noise emission standards.	Noted for compliance. However there is no need of providing D.G. Set as adequate electricity is available.
24.Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and should be operated only during non-peak hours.	No action required, as construction of godown is completed.
25.Ambient noise levels should conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should	Pollution load on the ambient air and noise quality level will be closely monitored during operational phases.

be closely monitored during construction phase.	
26. Ready made mix concrete should be used so far as possible.	Construction work is completed.
27. Water demand during construction should be reduced by use of curing agents, plasticizers and other best practices.	No action required, as construction of godown is completed.
28. Fly ash should be used as building material in the construction as per provisions of Fly Ash Notification under EPA.	No action required, as construction of godown is completed.
29. Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	Will be strictly followed.
30. The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	No action required, as construction of godown is completed.
A-2 OPERATION PHASE:	
31. Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Requirement of water during operation phase has been made from local supplier as the demand for water is not heavy.
32. Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP. Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose. Dual plumbing system with separate tanks and lines shall be provided for reuse of treated sewage.	Provision for construction of sock pit alongwith Sewage Treatment Plant, such as Aviation Tank, Polished Tank and Treated Water Tank has been made. The sewage treated water will be used for plantation.
33. Low water consuming devices shall be provided. Fixtures for showers, toilet, flushing and drinking shall be of low flow either by use of aerators/ diffusers or pressure reducing devices etc.	Low water consumption device will be used for shower, toilet flushing and drinking.

<p>34.The municipal solid waste shall be properly collected and segregated at source. Recyclable waste shall be sold off to vendors whereas non recyclable wastes shall be disposed through the local body.</p>	<p>Municipal solid waste will be collected and segregated as per the existing solid waste management rules.</p> <p>Recycled waste will be sold to vendors. Whereas Non-recyclable waste will be disposed of through local body.</p>
<p>35.Hazardous wastes i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008, as may be amended from time to time.</p>	<p>Hazardous waste for DG Set will be sold to registered recyclers. No other type of hazardous waste will be generated as the godown is constructed for storage of cargo.</p>
<p>36.The stack height of the DG Sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the D. G. Sets shall conform to the standards prescribed by GPCB. At no time, the emission levels shall go beyond the stipulated standards.</p>	<p>In case the D.G. Set is used, proper action will be taken to comply with the requirements. The gaseous emission levels will be maintained upto stipulated standards.</p>
<p>37.The acoustic enclosures shall be installed at all noise generating equipments such as DG Sets, air conditioning systems, etc. and the noise level shall be maintained as per the MoEF / CPCB guidelines / norms both during day and night time.</p>	<p>In case the D.G. Set is used, acoustic enclosures will be installed at the noise generating equipments during operational phase.</p> <p>Noise level will be maintained as per the MoEF / CPCB guidelines / norms.</p>
<p>38.The green belt shall be developed along the boundary and internal roads. The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety. The area earmarked as green area shall be used</p>	<p>Adequate area has been earmarked for development of greenbelt at the periphery area of our godown.</p> <p>The area earmarked as green area will not be used for any other purpose.</p> <p>We will use drip irrigation / low-volume,</p>

<p>only for greenbelt and shall not be altered for any other purpose.</p> <p>Drip irrigation / low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.</p>	<p>low-angle sprinkler system for the green area including tree plantation. Wherever possible.</p>
<p>39. Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent. The area earmarked for the parking shall be used for parking only. No other activity shall be permitted in this area.</p>	<p>Parking places for vehicles has been earmarked as per the norms. This Area will be used for parking purpose only and no other activity will be carried out in this area.</p>
<p>40. No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors for parking. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.</p>	<p>No public space will be used or blocked for parking. The same will be monitored by trained staff to avoid traffic congestion.</p>
<p>41. The project proponent shall install the electric utilities / devices, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable.</p> <p>Energy Conservation Building Code [ECBC] norms shall be implemented in the project.</p>	<p>We shall install the energy efficient devices/ electric utilities to meet with the Bureau of Energy Efficiency norms, wherever applicable.</p> <p>We will also implement the Energy Conservation Building Code [ECBC] norms in our premises.</p>
<p>42. The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project. Solar lights shall be provided in the open sunlit areas.</p>	<p>We will ensure the use of transformers and motors having minimum efficiency of 85% and also endeavour to provide solar lights in open sun lit areas wherever possible.</p>
<p>43. The energy audit shall be conducted at regular interval for the project and the recommendations of the Audit Report shall be implemented with spirit.</p>	<p>Energy audit will be carried out at regular intervals and the suggestions in the Audit Report will be implemented.</p>
<p>44. Adequate measures shall be taken for fire and life safety as per the</p>	<p>Adequate measures will be taken for fire</p>

provisions of the NBC guidelines. Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	and life safety as per the provisions of the NBC guidelines at our premises. We have earmarked the peripheral/ open passages for free movement of the fire tender / emergency vehicles around the premises during emergencies.
45.The project management shall prepare a detailed Disaster Management Plan (DMP) for the operational phase of the project.	Action is being taken to prepare Disaster Management Plan (DMP) for operational phase of the project.
46.Necessary emergency lighting system along with emergency power back up system shall be provided. In addition, emergency siren/public address system arrangement shall be provided in the township. Necessary signage/maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.	Emergency lighting system, along with emergency power back up will be provided at the premises. We will also provide the emergency siren/public address system at identified area of the premises. Necessary signage/maps will be provided at appropriate places to guide the people towards exits and assembly points during emergency.
47. Compulsory Training to the staff for the first aid and fire fighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	Necessary training will be imparted to the persons engaged on emergency management system forming integral part of the emergency management plan.
48. First Aid Boxes shall be made readily available in adequate quantity at all the times.	Adequate number of First Aid Boxes have been made readily available at all times.
49.The project proponent shall ensure maximum employment to the local people.	Existing Law of the land shall be followed by us.
50.The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	We shall strictly comply with all measures relating to environment protection, risk mitigation and safeguards at our premises.
OTHER CONDITION:	

51. A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	Environmental Management Cell with qualified personnel will be created to carry out environmental monitoring and management during operational phases.
52. All the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by the KPT.	The recommendations and suggestions given by NIOT in their Environment Impact Assessment Report will be strictly followed.
53. KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and Shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	To be implemented by DPT.
54. KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the Forests and Environment Department and the District Collector / District Development Officer.	To be complied with by DPT. We shall take action as per the requirement of DPT.
55. KPT shall contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental management / conservation / improvement for the Gulf of Kutch.	We shall contribute financially for any common study as per the advice of DPT and on prorated basis, based on the area of leased plot.
56. KPT shall bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision / monitoring of proposed activities and the environmental impacts of the proposed activities.	To be complied with by Deendayal Port Trust. We will share the cost of the external agency to be appointed for supervision / monitoring activities on prorated basis, based on area allotted to us.

<p>57.KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.</p>	<p>This is to be complied with by Deendayal Port Trust. We will contribute financially to the extent possible to support the National Green Corps Scheme being implemented by the GEER Foundation, Gandhinagar, Gujarat State.</p>
<p>58. A separate budget shall be earmarked for environmental management and socio-economic activities including the greenbelt / mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.</p>	<p>A separate budget for Environmental Management and other activities viz. development of Green belt area, has been prepared. Necessary details are furnished to statutory authorities regularly in half yearly returns.</p>
<p>59. Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.</p>	<p>Not Applicable as there will be no movement in Inter Tidal Zone from our side.</p>
<p>60. A six monthly report on compliance of the stipulated conditions shall have to be furnished by the KPT in hard and soft copies to the regulatory authorities concerned, on 1st June and 1st December of each calendar year.</p>	<p>This is being complied with.</p>
<p>61.No further expansion or modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.</p>	<p>We have not extended, modified or developed further expansion.</p> <p>The requirement of obtaining prior clearance for expansion will be followed.</p>

<p>62. Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to be complied with by the KPT</p>	<p>Deendayal Port Trust / We will comply with any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose.</p>
<p>63. The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.</p>	<p>We have earmarked adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein.</p> <p>We shall not divert earmarked funds for any other purposes.</p>
<p>64. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.</p>	<p>Deendayal Port Trust had already informed to the public that the project has been accorded Environmental Clearance from SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC.</p>
<p>65. The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.</p>	<p>We will strictly follow the stipulations made by the GPCB.</p>
<p>66. The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.</p>	<p>This is to be complied with by Deendayal Port Trust.</p>

67.The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Noted.
68.The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.	Deendayal Port Trust / we will strictly adhere to the above conditions under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.
69.This environmental clearance is valid for five years from the date of issue.	Noted.

For Act Infraport Ltd.

Ny

Authorised Signatory



June 2022 to November 2022

**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Godowns – Stage II at Kandla,
Dist: Kutch by M/S Deendayal Port Trust Limited- Reg.**

Specific Condition	
<p>1. The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the DPT.</p> <p>No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the DPT.</p>	<p>We shall strictly follow the provisions of the CRZ notification of 2011 and subsequent amendments issued from time to time.</p> <p>We have carried out only those activities which are permissible under CRZ Notification, 2011.</p>
<p>2. The DPT shall participate financially for installing and operating the vessel Traffic Management System in the Gulf of Kachchh and shall also take lead in the preparing and operationalizing the regional oil spill contingency plan in the Gulf of Kachchh.</p>	<p>This will be complied by DPT.</p>
<p>3. The DPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.</p>	<p>No creek or river has been blocked by us in the plot.</p>
<p>4. Mangrove plantation in an area of 200 ha. shall be carried out by the DPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and Six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the ministry of environment and forest as well as to this department without fail.</p>	<p>This will be complied by DPT.</p>
<p>5. No ground water shall be tapped for any purpose during the proposed expansion / modernization activities.</p>	<p>There are no plan for expansion / modernization activities.</p>
<p>6. All necessary permission from different government</p>	<p>Deendayal Port Trust had already obtained NOC from Gujarat State</p>

departments/agencies shall be obtained by the DPT before commencing the expansion activities.	Pollution Control Board vide letter GPCB/CCA-KUTCH-789/GPCB ID 29700/117726 dated 17/07/2012. Further, GPCB vide provisional letter dated 12/08/2016 had extended the validity period for NOC/CTE up to 11/08/2021.
7. No effluent or sewage shall be discharged into the sea/ creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extent feasible.	<p>No sewages will be discharged into the sea / creek or in the CRZ area.</p> <p>The sewage will be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and will be re-used for development of greenbelt at our premises.</p>
8. All the recommendations and suggestions given by the NIOT in their environment impact assessment report for conservation/protection and betterment of environment shall be implemented strictly by the DPT.	Agreed. All recommendations and suggestions will be implemented strictly.
<p>9. The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>The construction and reclamation activities shall be carried out only under the constant supervision and guideline of the NIOT</p>	<p>We have carried out construction activities in such a way that there are no negative impacts on mangroves and other coastal/marine habitats.</p> <p>Work has been completed.</p>
10. The DPT shall contribute financially for any common study or project that may be proposed by this department for environmental management/ conservation /improvement for the gulf of Kutch.	This is to be complied with by DPT. However, we shall contribute financially to the extent possible on prorated basis, based on land area.
11. The construction debris and / or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas.	We have not disposed of any construction debris or any other type of waste into the sea, creek or in the

<p>The Debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by GPCB.</p>	<p>CRZ areas.</p> <p>Construction debris were removed immediately after construction activities were completed and disposed of as per norms. There is no further construction debris. Hence no Action.</p>
<p>12.The construction camps shall be located outside the CRZ area and the construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labours.</p>	<p>No action required as construction work is completed.</p>
<p>13.The DPT shall bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.</p>	<p>This is mainly to be complied with by DPT. We shall, however, share the cost on pro rata basis, based on land area.</p>
<p>14.The DPT shall take up massive greenbelt development activities in and around Kandla and also within the DPT limits.</p>	<p>As per standing guidelines, we have earmarked sufficient space at periphery area of the plot for development of greenbelt.</p>
<p>15.The DPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the forests and environment department and district collector/ district development officer.</p>	<p>This is mainly to be complied with by DPT. We shall, however, share the cost on pro rata basis, based on land area.</p>
<p>16.A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this department as well as the MoEF, GOI.</p>	<p>A provision of Rs. 1.25 lakhs has been made for Environmental Management and socio-economic activities for the year 2022 - 23. The details have been furnished to statutory authorities in six monthly</p>

The details with respect to the expenditure from this budget head shall also be furnished.	compliance report. Will be complied with.
17.A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	We have engaged reputed consultant for Analytical & Environmental Monitoring to look after the job during operational phase.
18.An environmental audit report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the DPT to this department as well as to MoEF, GOI.	This will be complied with by DPT. We have, however, noted the requirement for implementation.
19. The DPT shall have to contribute financially to support the national green corps scheme being implemented in Gujarat by the Geer foundation. Gandhinagar, in consultation with forest and environmental department.	This is to be complied with by DPT. We will, however, contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, on prorata basis, based on leased area to us.
20.A six-monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the DPT on regular basis to this department/ MoEF, GOI.	Six monthly compliance reports are being submitted regularly to DPT.
21.Any other condition that may be stipulated by this department from time to time for environmental protection / management purpose shall also have to be complies with by the DPT.	We will comply with any other condition that may be stipulated by F&ED from time to time for environmental protection / management purpose.

For ACT Infraport Ltd.,

Authorised Signatory



June 2022 to November 2022

Compliance Report of NOC for the project entitled "Development of plots for construction of Warehouse/Godowns - Stage II."

Sr. No	Conditions	Compliance
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1.	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We shall comply with conditions as prescribed in Environmental / CRZ Clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	No ground water was used
3.	CONDITIONS UNDER WATER ACT 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	Point noted. The Godown is constructed for storage of dry cargo.
3.2	The quantity of the domestic wastewater (Sewage) shall not exceed NIL.	The point noted. The quantity of wastewater is almost Nil.
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water – Cess Act-1977 schedule II) consumption of water.	Construction work is already completed.
4.	CONDITIONS UNDER AIR ACT 1981 :	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	Point Noted. The Godown is meant for storage of dry cargo.
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	Point Noted. It is only Godown.
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	Point noted. The Godown is meant for storage of dry cargo.

The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder.

Sr . No.	Pollutant	Time Weighted Average	Concentration in Ambient air in $\mu\text{g}/\text{M}^3$
1.	Sulphur Dioxide (SO_2)	Annual 24 Hours	50 80
2.	Nitrogen Dioxide (NO_2)	Annual 24 Hours	40 80
3.	Particulate Matter (size less than $10\ \mu\text{m}$) OR PM_{10}	Annual 24 Hours	60 100
4.	Particulate Matter (size less than $2.5\ \mu\text{m}$) Or $\text{PM}_{2.5}$	Annual 24 Hours	40 60

Plot is meant for construction of godown for storage of cargo. No industry will be set up. However, the point is noted and the parameters will be kept in view. There is no creation of pollutants. Hence parameters are Nil.

4.4

4.5

The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time, Daytime is reckoned in between 6a.m. and 10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.

The requirement will be followed during operation of completed godown.

5.	CONOITIONS UNDER HAZARDOUS WASTE:	
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended from time to time.	NA, As the Godown will be used for storage of Cargo.
5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.	NA, as only storage Godown has constructed for storage of dry cargo there will be no hazardous waste.
6.	GENERAL CONDITION:	
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.	We have already developed the requisite green belt.
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	Same as Above
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.	Agreed.
6.4	In case of change of ownership /management the name and address of the new owners / partners / directors/proprietor should immediately be intimated to the Board.	This will be complied with.

6.5	<p>The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant.</p> <p>The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.</p>	<p>Agreed.</p> <p>Noted for Compliance</p>
6.6	<p>The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).</p>	<p>Agreed</p>
6.7	<p>The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.</p>	<p>No plant /industry is to be set up. The plot is meant for construction of godown for storage of cargo.</p>
6.8	<p>Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986</p>	<p>N/A as the Godown will be used for storage of cargo.</p>
6.9	<p>If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.</p>	<p>We will pay the compensation as determined by the competent authority, if any damage is caused to any person or his property in our premises. However, no industrial activities are involved as the godown will be utilised for storage of non-hazardous cargo.</p>

6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	We will strictly comply with the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	We will not use ground water during operation phase.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	Agreed.
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	Agreed to.

For **ACT Infraport Ltd.,**

Authorised Signatory



JUNE 2022 TO NOVEMBER 2022

GENERAL CONDITIONS

Sr.No.	Conditions	Compliance
1.	<p>In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board.</p> <p>The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.</p>	<p>No manufacturing process is involved as the Godown constructed on plot is being used for storage of cargo.</p> <p>Not applicable.</p>
2.	<p>If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.</p>	<p>Not applicable.</p>
3.	<p>The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license</p>	<p>Not applicable.</p>
4.	<p>The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also co-ordinate the exercise of Environmental Audit and preparation of Environmental Statements.</p>	<p>Will be complied with.</p>
5.	<p>The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the copy of the same to the GPCB.</p>	<p>Not applicable.</p>
6.	<p>The concentration of Noise on ambient air within the factory premises shall not exceed the following limit: Between 6 AM to 10 PM : 75 dB (A) Between 10 PM to 6AM : 70 dB (A)</p>	<p>Not applicable. But the requirement will be followed during operation of godown.</p>
7.	<p>The unit shall, on establishing this plant:</p> <p>a) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors</p>	<p>Not applicable.</p>

	of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB.	
	b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause	Not applicable as godown constructed on plot will be used for storage of cargo.
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the this Board latest by 30 th September every year	Periodical (6 monthly) Environment Audit is being carried out and report is submitted to DPT.
9.	The unit shall have and use only one outlet for discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	Not applicable as godown constructed on plot will be used for storage of cargo.
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	Not applicable as godown constructed on plot will be used for storage of cargo.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	Not applicable as godown constructed on plot will be used for storage of cargo.
12.	The pipeline connecting various equipments or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	N/A as plot is meant for construction of godown for storage of cargo.
13.	In case of incinerators the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day	Not applicable as godown constructed on plot will be used for storage of cargo.
14.	In case of plants involving Bio-mass Treatment. For each addition of the bio-mass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded everyday.	Not applicable as godown constructed on plot will be used for storage of cargo.
15.	The printed log books shall be maintained and get it certified for:	

	<p>a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured.</p> <p>b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures</p> <p>c) Quantity of sludge generated</p> <p>d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.</p>	<p>a) N/A as godown constructed on plot will be used for storage of cargo.</p> <p>b) N/A as godown constructed on plot will be used for storage of cargo.</p> <p>c) N/A as godown constructed on plot will be used for storage of cargo.</p> <p>d) N/A as godown constructed on plot will be used for storage of cargo.</p>
16.	<p>The unit shall operate full and efficiently all its effluent treatment plant/s and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether maintenance/ repairs/ electricity failure or otherwise) and shall not restart such activities unless and until all the effluent treatment plants of the unit are fully operational.</p>	<p>N/A as godown constructed on plot will be used for storage of cargo.</p>
17.	<p>The unit shall have and operate all the requisite equipment / facilities for prevention and control of air pollution and shall operate the same.</p> <p>The unit shall also have stack monitoring facilities.</p> <p>Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing /processing activities unless and until all its air pollution protection and control equipments and facilities including stack monitoring facilities are fully operational.</p>	<p>N/A as godown constructed on plot will be used for storage of cargo.</p> <p>N/A as godown constructed on plot will be used for storage of cargo.</p> <p>N/A as godown constructed on plot will be used for storage of cargo.</p>
18.	<p>The unit shall submit, before commencing the production to the GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing</p>	<p>N/A as godown constructed on plot will be used for storage of cargo.</p>

	<p>/processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on a board of adequate size within its compound and near its effluent treatment plant/s.</p>	
19.	<p>The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis.</p> <p>The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants.</p> <p>The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.</p>	<p>N/A as godown constructed on plot will be used for storage of cargo.</p> <p>N/A as godown constructed on plot will be used for storage of cargo.</p> <p>N/A as godown constructed on plot will be used for storage of cargo.</p>
20.	<p>The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.</p>	<p>N/A as godown constructed on plot will be used for storage of cargo.</p>
21.	<p>The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.</p>	<p>Not Applicable. But the requirement will be followed for operation of godown for storage of cargo.</p>
22.	<p>It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system.</p> <p>The unit shall comply with all such instructions whether general or special.</p>	<p>Not Applicable. But the requirement will be followed for operation of godown for storage of cargo.</p> <p>Not Applicable. But the requirement will be followed for operation of godown for storage</p>

		of cargo.
23.	When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution.	a) & b) The requirement will be complied with.
	a) The unit shall not use any diesel generating set or any other alternative source of energy or water tankers from outside.	
	b) The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far	
24.	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board.	The requirement will be complied with.
	Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.	The requirement will be complied with so far it relates to construction & utilization of godown on plot No.49.
25.	Guards ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.	Not applicable as the godown constructed will be used for storage of cargo.
26.	The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.	Not applicable. However, the requirement will be complied with so far as it relates to construction and utilization of godown on the plot.
27.	The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.	No gaseous emission from various process is involved as the godown will be used for storage of Cargo.

28.	a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
	b) Stack emissions from boiler and heater should be monitored for SO ₂ , NO _x , hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipments should be provided for measurement of SO ₂ and NO _x .	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage Cargo.
	c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.	N/A. No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
	d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.	No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
29.	Low NO _x burner should be provided to avoid excessive formulation of NO _x . Only LSH will be used a fuel during the critical month to ensure that SO levels in the ambient air is within the norm Specified.	N/A No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	Agreed.
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Napthalene based product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification treatment. The design of the landfill site should be submitted before commencing the	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage of Cargo.

	production to this Board and Government.	
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage of Non Hazardous Dry Cargo.
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
34.	On-site and off-site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemical Rules -1989 should be prepared and approval from the Board should be obtained.	Not Applicable. No gaseous emission from various process is involved as the godown will be used for storage of Cargo.
35.	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	We will take adequate measures for improving the socio-economic environment and report for the same will be submitted to the concerned authorities.
36.	Periodical medical check up of the workers should be done and records maintained as a measures to provide occupational health service to the workers.	Will be complied with.
37.	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	This is to be complied with by KPT. We have created Cell to monitor Environmental Management.
38.	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	We have not diverted the funds earmarked for the Environmental Protection Measures. Requirement will be followed.

For ACT Infraport Ltd.

Authorised Signatory



Report No: - EE/ENV/2022/11/090

Date: 29/11/2022

ANALYSIS REPORT (For the month of November - 2022)

Client Details		Sample Details	
Name	M/s. Act Infraport Ltd.	Sample Code	AIP/AA1
Address	Plot No.: 49, Near West gate No.1 of Cargo jetty of KPT, Village: Kandla, Tal: Gandhidham, Dist: Kutch-370 201,	Location	Near Plot No. 49
		Protocol (Purpose)	Half Yearly (June-22 to November-22)
Sampling Done By	Earth Envirotech Team	Date of Sampling	25/11/2022
Analysis Starts on	26/11/2022	Sampling Method	IS 5182 (Part - 5): 2020 Gaseous pollutants IS 5182 (Part - 23): 2017- PM ₁₀ CPCB manual volume I-PM _{2.5}
Analysis Completion On	29/11/2022	Sample Received Date	26/11/2022

AMBIENT AIR MONITORING RESULTS

Sr. No.	Parameters	Unit	Results	National Ambient Air Quality Standards (NAAQS)	Reference Method
			Nr. Plot No. 49		
1.	Particulate Matter PM ₁₀	µg/m ³	63.45	100	IS 5182 Part 23 : 2017
2.	Particulate Matter PM _{2.5}	µg/m ³	19.64	60	CPCB manual Volume I
3.	Sulphur Dioxide (SO ₂)	µg/m ³	11.68	80	IS 5182 Part 2 : 2017
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	16.49	80	IS 5182 Part 6 : 2017

Chir
Analyzed By:



- Analysis is subject to the condition In Which the Sample is received at our Laboratory.
- Reports can not be used as an evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 Days from the date of sampling.

Ref. No.CMP/GARL/2022/11Date:23/11/2022

✓ To,
Environment Management Cell
DEENDAYAL PORT AUTHORITY
Administrative Office,
PB No. 50, Gandhidham (Kutch)
Gujarat - 370201,

Sub. :Submission of EC & CRZ Half Yearly Report: June-2022 to November-2022.

Ref.: EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/351/2012, dated 27/11/2012.

Dear Sir,

We have setup the warehouse/Godown at Plot No. 26.

Accordingly, please find enclosed here with point wise compliance report of the stipulated condition in EC/CRZ Clearance. (Encl. as **Annexure - A**)

Alsohere we have enclosed the Detail Compliance Report of CRZ Recommendationas **Annexure - B**,Detail Compliance Report of Consent to Establish (NOC) as **Annexure - C**, Monitoring the Implemental Safeguards Data Sheet.(Encl. as **Annexure-D**).

We hope the above is in line with your requirements.

Thanking you

Yours sincerely,

M/s. GOKUL AGRO RESOURCES LTD.



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06/12/22
Authorized Signatory,

Reg. Off. : Office No. 801-805, Dwarkesh Business Hub, Survey No. 126/1, Opp. Visamo Society, B/H Atishay Belleview, Motera, Ahmedabad - 380 005. Gujarat (India)
079-67123500 / 501, Fax : 079-67123502, CIN : L15142GJ2014PLC080010
Plant : Survey No. 76/1/P-1, 80, 89 & 91, Near Sharma Resort, Galpadar Road, Meghpar - Borichi, Tal. - Anjar 370110, Dist - Kachchh, Gujarat (india).
9879112574
garl@gokulagro.com www.gokulagro.com

Manager (Env)/Shri Padma
EMC
31/6/23
6/12

Annexure - A

COMPLIANCE STATUS REPORT OF EC

✓ **EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/2012, dated 27/11/2012.**

**SUBJECT: Point wise compliance report of EC and CRZ clearance to Kandla Port Trust
for development of plots for construction of warehouses / Godowns at plot no. 26 at
Kandla, Dist. Kutch Reg.**

NO.	BRIEF DESCRIPTION	COMPLIANCE REPORT
SR. NO.	<u>SPECIFIC CONDITIONS :</u>	
1.	Kandla port trust [KPT] shall prepare a master document of terms and condition including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of warehouses/ Godowns, KPT shall be the responsible for non-compliance or violation of any of the terms and conditions mentioned in the master document.	DPA has already prepared a master document of terms and conditions including the provisions of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed with the bidders of warehouses / Go-downs
2.	KPT shall not allowed the storage of those material in warehouse and Godowns, which are not permissible as per the CRZ Notification, 2011, as may be amended from time to time.	We have only stored those material in warehouse and Go-downs, which are permissible as per CRZ Notification, 2011 and amended from time to time.
3.	<p>The provision of the CRZ Notification of 2011 shall be strictly adhered to by the KPT.</p> <p>No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.</p> <p>KPT shall carry out only permissible activities within the CRZ areas.</p>	<p>We are strictly followed the CRZ Notification of 2011 and amended from time to time.</p> <p>No activities have been carried out by us in concentration to the provisions of the CRZ Notification, 2011 and amended from time to time.</p> <p>We are carried out only those activities out only those activities in warehouse/ go downs, which are permissible as per CRZ notification, 2011 and amended from time to time</p>
4.	Mangroves plantation in an area of 200 ha. Shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and six monthly compliance report along with the satellite images and GPS readings with latitude and longitude shall be submitted to the Ministry of Environment and Forest as well as to this Department without fail.	Point noted and will be complied accordingly.
5.	All necessary permission from different government departments/ Agencies shall be obtained by the KPT before commencing the expansion activities.	DPA has already been obtained NOC from GPCB, vide letter GPCB/CCA-KUTCH-799/GPCB ID 29700/117726, dated

		11/07/2012. Further, GPCB vide provisional Letter dated 12/08/2016 has already extended the validity period up to 11/08/2021.
6.	No ground water shall be tapped for any purpose during the construction and operation phases.	No any ground water has been tapped by us for the construction activities and operation phases.
7.	No effluent and sewage shall be discharge into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the premises.	No any sewage has been discharged into the sea/creek or in the CRZ area. We have already earmarked the area for STP/Soak pit and will treat to conform to the norms prescribed by the Gujarat Pollution Control Board. We are reusing the treated water for developed of greenbelt at our own premises.
8.	The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal / marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	We had done the construction activities in such a way that there are no any negative impacts on mangroves and other coastal / marine habitats. The construction and reclamation activities had been carried out as per suggestion/ recommendation given by the NIOT.
9.	KPT shall tack up massive greenbelt development activities in and around Kandla and also within the KPT limits.	We have already earmarked the area for development of greenbelt i.e 10 meter at periphery area of plot.
10.	An environmental audit Report indicating the change if any, with respect to the baseline environment quality in the coastal and marine environment shall be submitted every year by the KPT to F&ED as well as MoEF, GOI.	DPA will submit the environment audit report accordingly.
	CONSTRUCTION PHASE:	
11.	KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked due to construction activities.
12.	Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Local water Supplier had been appointed for Water requirement during the construction phase
13.	All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	We had provided all the required sanitary and hygienic measures before starting the construction activity and it was maintaining throughout the construction phase.
14.	The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Necessary barricades with adequate height at periphery area of plot along with signage have provided by us.
15.	Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Measures for controlling fugitive emission have been provided by us.

16.	Material shall be covered during transportation to avoid the fugitive emission.	Material have covered with tarpaulin for Controlling the Fugitive emission during the transportation of material.
17.	The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	Roads inside the project area and connected to main road have been paved and necessary arrangement has been provided to control the fugitive emissions during construction activities.
18.	Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition.	Necessary arrangement for drinking water and sanitation facilities, fuel (Kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities have been provided by us. No adverse activities on existing environmental condition have been carried out by workers during the construction phase.
19.	Adequate personal protective equipment shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labors.	For the safety of construction workers and labors we had provided Necessary personal protective equipment.
20.	All topsoil excavated during construction activities should be stored separately for use in horticultural / landscape development within the project site.	We had stored the topsoil excavated during construction activities and same will be used for development of greenbelt in the premises.
21.	The construction debris and/ or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	We had not disposed of any type of waste into sea, creek or in the CRZ areas. Construction debris has been removed immediately after construction activities completed and same will be disposed off as per the GPCB Norms/ construction and Demolition Rule, 2016 by successful plot allottee.
22.	The construction camp shall be located outside the CRZ area and t6he construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	No construction camps are required at project site because only local people / labors are involved for the construction activities. No any environmental conditions have been deteriorated during construction carried out by us.
23.	Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA rules for air and noise emission standards.	Noted and Agree with this.
24.	Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and should be operated only during non-peak hours.	We have hired only those vehicles having valid pollution control license granted by statutory authorities. Plot no. 26 is connected with national highway, so transporting activities are carried out only during day time.

25.	Ambient noise levels should confirm to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	The noise level and Ambient level confirming the standards both during day and night.
26.	Readymade mix concrete should be used so far as possible.	Readymade mix concrete Have been used, whenever required.
27.	Water demand during construction should be reduced by use of curing agents, pesticides and other best practices.	Water demand during construction phase has been reduced following best practices.
28.	Fly ash should be used as building material in the construction as per provision of fly ash Notification under EPA.	Point noted.
29.	Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	The construction activities are carried out only after approval of layout plan from competent authority, following the seismic zone regulations.
30.	The construction material and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	We have already earmarked the area for storage and handled of construction materials and debris in such a way that no any negative impacts on air, public and road- traffic take place.
<u>OPERATION PHASE:</u>		
31.	Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	We are purchasing water from local water Supplier.
32.	Sewage to the tune of 823 lit/day to be generated during operation phase shall be treated in the onsite STP. Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose. Dual pumping system with separate tanks and lines shall be provided for reuse of treated sewage.	At plot no. 26, only dry cargo storage facilities are developed. Hence, there is no generation of any sewage.
33.	Low water consuming devices shall be provided. Fixtures for showers, toilets, flushing and drinking shall be of low flow either by use of aerators/ diffusers/ pressure reducing devices.	Adequate measures for low water consumption will be provided by us during operational phase.
34.	The municipal solid waste shall be properly collected and segregate at source. Recyclable waste shall be sold off to vendors whereas non-recyclable wastes shall be disposed through the local body.	Municipal solid waste will be collected and segregated as per the solid waste management rule, 2016 by us.
35.	Hazardous waste i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the hazardous waste (Management, Handling and Transboundrymovement) Rules 2008, as may be amended from time to time.	NA, as only Non-hazardous dry cargos are to be stored as permissible in CRZ Notification, 2011.

36.	The stack height of DG sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the DG sets shall conform to the standards prescribed by GPCB. At no time, the emission level shall go beyond the stipulated standards.	No DG set is installed at plot no. 26.
37.	The acoustic enclosures shall be installed at all noise generating equipments such as DG sets, air conditioning systems, etc. and the noise level shall be maintained as per the MoEF/ CPCB guidelines/ norms both during day and night time.	No DG set is installed at plot no. 26.
38.	<p>The green belt shall be developed along the boundary and internal roads.</p> <p>The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety.</p> <p>The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose.</p> <p>Drip irrigation/ low-volume, low-angle sprinkler system shall be used for the lawns and other green area including tree plantation.</p>	<p>We have already been earmarked area for development of greenbelt at periphery area of our own premises.</p> <p>The open spaces inside the plot area will be suitable landscaped and covered with vegetation of indigenous variety by us during operation phase.</p> <p>We are not altered green earmarked area for any other purpose.</p> <p>We have use drip irrigation/ low-volume, low angle sprinkler system for the lawns and other green area including tree plantation during the operation phase.</p>
39.	Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent. The area earmarked for parking shall be used for parking only. No other activity shall be permitted in this area.	We have Provided the parking space as per the local by-laws and NBC guidelines and parking is used only for parking, no other activity carried out in this area.
40.	<p>No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors to the parking.</p> <p>Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.</p>	<p>No any public space has been used or blocked for parking during the operational phase. Further, same will be monitored by qualified staff.</p> <p>No congestion near the entry and exit points from the roads adjoining the plots will take placed by us during operation phase.</p>
41.	The project proponent shall install the electric utilities / devices, which are energy efficient and meeting with bureau of Energy Efficiency norms, whenever applicable. Energy conservation building code (ECBC) norms shall be implemented in the project.	Point noted and will be complied.
42.	The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives shall be used in the project. Solar lights shall be provided in the open sunlight area.	Point noted and will be complied.

43.	The energy audit shall be conducted at regular interval for the project and the recommendation of the Audit Report shall be implemented with spirit.	Not Applicable.
44.	Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines. Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	Adequate measures have taken for fire and life safety as per the provisions of the NBC at plot no. 26. We have already earmarked the area/ open passages for free movement of the fire tender/ emergency vehicle around the premises during the operation phase.
45.	The project management shall prepare a detailed Disaster Management Plan (DMP) for the operation phase of the project.	NA, as only Non-hazardous dry cargos are to be stored.
46.	Necessary emergency lighting system along emergency power back up system shall be provided. In addition emergency siren and public address system arrangement shall be provided in the township. Necessary signage/ maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.	We have provided the Emergency lighting system along with power back up system. We have provided the emergency siren/public address system arrangement at identified area at Plot No. 26. We have also provided the necessary signage/maps at all appropriate places to guide the people towards exits and assembly points during the unforeseen emergency and untoward conditions.
47.	Compulsory training to the staff for the first aid and firefighting along with regular mock drill shall be made an integral part of the emergency management plan of the project.	Necessary training for emergency management plan have been given by us to all staff.
48.	First Aid Boxes shall be made readily available in adequate quantity at all the times.	Adequate quantity of First aid Rooms/Boxes will be provided by us in the construction phase and operation phase of the project.
49.	The project proponent shall ensure maximum employment to the local people.	Only local people are employed by us.
50.	The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	We have strictly complied with all the environment Protection measures, risk mitigation measures and safeguards at our own premises.
<u>OTHER CONDITIONS:</u>		
51.	A separate Environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction phase and operational phase of the project.	Not applicable, as only dry cargo is stored and handled at plot no. 26.
52.	All the recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by KPT.	The recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment have been strictly followed.

53.	KPT shall participate financially for installing and operating the vessel traffic management system in the Gulf of Kutch and shall also take lead in preparing and operational zing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	DPT has contribution an amount of Rs. 41.25 crore, i. e. 25% of total project cost of Rs.165 Crore for installation and operating the VTMS in Gulf of Kutch. KPT has also participated for preparing and operational zing the Oil Spill Contingency plan in Gulf of Kutch.
54.	KPT shall have to contribute financially for taking up the socio-economic up-liftment activities in this region in consultation with the forests and Environment Department and the District Collector/ District Development Officer.	Point noted and will be complied.
55.	KPT shall contribute financially for any common study or project that may be proposed by the Forests and Environment Department (F&ED) for environment management/ conservation/ improvement for the Gulf of Kutch.	Point noted and will be complied.
56.	KPT shall bear the cost of the external agency that may be appointed by F&ED/ SEIAA for supervision / monitoring of proposed activities and the environment impacts of the proposed activities.	DPA shall bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.
57.	KPT shall have to contribute financially to support the National Green Crops Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar in consultation with Forests and Environment Department.	DPA will contribute financially to support the scheme.
58.	A separate budget shall be earmarked for environmental management and socio economic activities including the greenbelt/ mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GOI. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	We have earmark separate budget 3.0 lakh for environmental protection, Socio economic activity including the greenbelt/ mangrove plantation at our plot no. 26.
59.	Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	No any vehicles movement in the inter tidal zone have been carried out at plot no. 26.
60.	A six month report on compliance of the stipulated conditions shall have to the regulatory authorities concerned, on 1 st June and 1 st December of each calendar year.	Six monthly reports are submitted as required.
61.	No further expansion and modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.	We have not extended, modified or developed plot no. 26.
62.	Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection / management purpose shall also have to complied with by the KPT.	Agreed with condition.

63.	The project authorities shall earmark adequate funds to implement the conditions stipulated by the SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Agreed with condition.
64.	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be sent at the website of SEIAA/SEAC/GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional office of the Ministry.	DPA has already informed to the public that the project has been accorded Environmental Clearance from SEIAA and copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC. DPT has already been published advertisement in Times Of India and Kutch Mitra, dated. 05/01/2013. A copy of the same has already been submitted by KPT to Regional office, Bhopal, MoEF vide letter no. : EG/WK/4716(EC)/ part-I/640, dated 14/01/2013.
65.	The project authority shall also adhere to the stipulations made by the Gujarat pollution Control Board.	We are strictly adhered the stipulation made by the GPCB.
66.	The project authority shall inform the GPCB, Regional office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Point noted.
67.	The SEIAA may revoke or suspend the clearance, if implementation of any of the above condition is not found satisfactory.	Agreed with condition.
68.	The above condition will be enforced, inter-alia under the provision of the water (Prevention and control of pollution) Act, 1974, the Air (prevention and control of pollution) act, 1981, the Environmental (Protection) Act, 1986, Municipal solid wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the rules made under time to time.	We are fully complied with this.
69.	This environment clearance is valid for five years from the date of issue.	Point noted.

Annexure -B

**SUBJECT: CRZ Recommendation for proposed development of plots for
Construction of warehouse/Godowns – Stage II at Kandla,
Dist: Kutch by M/S Kandla Port Trust Limited- Reg.**

STATUS OF COMPLIANCE OF THE CONDITIONS STIPULATED BY GUJARAT STATE COASTAL ZONE MANAGEMENT AUTHORITY, GANDHINAGAR IN CRZ RECOMMENDATIONS LETTER.

SR. NO.	CONDITIONS IN CRZ RECOMMENDATION LETTER	COMPLIANCES
	<u>SPECIFIC CONDITIONS</u>	
1.	The provisions of the CRZ Notification of 2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	Deendayal port authority is strictly following the provisions of the CRZ notification of 2011 and subsequent amendments issued from time to time. Successful plot allottee will carry out only those activities which are permissible under CRZ Notification, 2011 and subsequent amendments from time to time.
2.	KPT shall participate financially for installing and operating the vessel traffic management system in the Gulf of Kutch and shall also take lead in preparing and operational zing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	DPA has contribution an amount of Rs. 41.25 crore, i. e. 25% of total project cost of Rs.165 Crore for installation and operating the VTMS in Gulf of Kutch. DPA has also participated for preparing and operational zing the Oil Spill Contingency plan in Gulf of Kutch.
3.	KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	No any creeks or rivers have been blocked due to construction activities.
4.	Mangroves plantation in an area of 200 ha. Shall be carried out by the KPT within 2 years in a time bound manner on Gujarat coastline either within or outside the Kandla port trust area and six monthly compliance report along with the satellite images and GPS readings with latitude and longitude shall be submitted to the Ministry of Environment and Forest as well as to this Department without fail.	Point noted and will be complied accordingly.
5.	No ground water shall be tapped for any purpose during the proposed expansion/ modernization activities.	No any ground water has been tapped for any purpose by us at Plot No. 26.
6.	All necessary permission from different government departments/ Agencies shall be obtained by the KPT before commencing the expansion activities.	DPA has already been obtained NOC from GPCB, vide letter GPCB /CCA-KUTCH-789/GPCB ID29700/117726, dt.17/07/2012 and subsequent letter, date. 12/08/2016 extending

		the validity period up to 11/08/2021.
7	No effluent and sewage shall be discharge into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the plant premises, to the extend feasible.	No any sewage has been discharged into the sea / creek or in the CRZ area. At plot no. 26, only dry cargo storage facilities are developed. Hence, there is no generation of any sewage.
8	All the recommendation and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by KPT.	We are strictly follow the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment.
9	The construction and operational activities shall be carried out in such a way that there are no negative impact on mangroves and other coastal / marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	We have carried out construction activities in such a way that there are no any negative impacts on mangroves and other coastal/ marine habitats. The construction and reclamation activities will be/have been carried out as per recommendation / suggestions given by the NIOT.
10	KPT shall contribute financially for any common study or project that may be proposed by the Forests and Environment Department (F&ED) for environment management/ conservation/ improvement for the Gulf of Kutch.	DPA/We are contribute financially for common study or project that may be proposed by F&E department for environmental management/ conservation/ improvement for the Gulf of Kutch.
11	The construction debris and/ or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	At plot no. 26 we have not disposed of any construction debris or any other type of waste into the sea, creek or in the CRZ areas.
12	The construction camp shall be located outside the CRZ area and t6he construction labor shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labors.	No construction camps are required at project site because only local people / labors are involved for the construction activities. No any environmental conditions have been deteriorated during construction carried out byus at plot no. 26.
13.	KPT shall bear the cost of the external agency that may be appointed by F&ED/ SEIAA for supervision / monitoring of proposed activities and the environment impacts of the proposed activities.	We assure to DPA that we are bear the cost of the external agency that may be appointed by this department for supervision/ monitoring of proposed activities and the environmental impacts of the proposed activities.
14.	The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	At plot no. 26, we have earmarked the area for greenbeltApprox. 10meter square wide at periphery area of their own plots for development

		of greenbelt.
15.	The KPT shall have the contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the FE Department/ District collector/ DDO.	Noted and Complied.
16.	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this department as well as the MoEF, GOI. The details with respect to the expenditure from this budget head shall be also be furnished.	Not applicable, as only dry cargo is stored and handled at plot no. 26.
17.	A separate Environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction phase and operational phase of the project.	Not applicable, as only dry cargo is stored and handled at plot no. 26.
18.	An environmental audit report shall be submitted every year by the KPT to this department as well as to MoEF, GOI.	Noted and agreed.
19.	The KPT shall have to contribute financially to support the national green crops scheme being implements in by Green Foundation, in consultation with forest and environmental department.	We will contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department.
20.	A six monthly report of compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on regular basis to this department/ MoEF, GOI.	We have submitted the six month compliance report to DPT. Here in Annexure-E we have attached the last submission acknowledgement copy.
21.	Any other condition that may be stipulated by this department from time to time for environmental protection/ management purpose shall have to be complies with by the KPT.	We are strictly complying with any other condition that may be stipulated by F&ED from time to time for environmental protection / management purpose.

Annexure -C

COMPLIANCE REPORT OF NOC FOR THE PROJECT ENTITLED

“Development of plots for construction of Warehouse/Godowns-Stage II”

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
1	You shall have to strictly comply with all the conditions as prescribed in your Environment Clearance and CRZ Clearance when it is granted to you.	We are strictly complied with all the conditions as prescribed in our Environmental and CRZ clearance.
2.	No ground water shall be used for the project coming under Dark zone without permission of competent authority.	No any ground water has been tapped by us.
3.	CONDITIONS UNDER WATER ACT, 1974:	
3.1	The generation and discharge of industrial effluent from the manufacturing process and other ancillary industrial operations shall be NIL.	Not applicable as this project is only for storage of non-hazardous dry cargo. Hence no any industrial effluent generated from the plot
3.2	The quantity of the domestic waste water (Sewage) shall not exceed NIL.	Not Applicable.
3.3	The unit shall install flow meters at utilities for measuring category wise (Category as given in Water - Cess Act-1977 schedule II) consumption of water.	Not Applicable.
4	CONDITIONS UNDER THE AIR ACT 1981:	
4.1	There shall be no use of fuel in manufacturing activity and other ancillary operations.	Not applicable as No any manufacturing activity involved. Only storage of Non-Hazardous dry cargo.
4.2	There shall be no flue gas emission from the manufacturing activity and other ancillary operations.	
4.3	There shall be no process gas emission from the manufacturing activities and other ancillary operations.	No manufacturing activity involved. Only storage of Non-Hazardous dry cargo.

SR. NO.	CONSENT CONDITION POINTS		COMPLIANCE	
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:				
4.4	The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder.		Ambient Air quality within plant premises have been confirmed to the prescribed norms.	
	Pollutant	Time weighted average		Concentration in ambient air in µg/M3
	Sulphur Dioxide (SO ₂)	Annual 24 hours		50 80
	Nitrogen Dioxide (NO ₂)	Annual 24 hours		40 80
	Particulate Matter (Size less than 10 µm) OR PM10	Annual 24 hours		60 100
	Particulate Matter (Size less than 2.5 mm) OR PM 2.5	Annual 24 hours		40 60
4.5	The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time, Daytime is reckoned in between 6a.m. and 10 P.M. and night time is reckoned between 10 p.m. and 6 a.m.		Noise level within plant premises have been confirmed the prescribed limit.	
5	CONDITIONS UNDER HAZARDOUS WASTE:			
5.1	The applicant shall provide temporary storage facilities and maintain the record for each type of Hazardous Waste as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 as amended from time to time.		NA, As only non-hazardous dry cargos are to be stored as permissible in CRZ Notification, 2011.	
5.2	The applicant shall be obtain membership of common TSDF site for disposal Hazardous Waste as categorized in Hazardous Waste (Management, Handling & Trans boundary Movement) Rules, 2008 as amended thereof.			
6	GENERAL CONDITIONS :			
6.1	Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within premises, the unit shall tie up with local agencies like gram panchayat, school, social forestry office etc. for the plantation at		Unit has developed greenbelt within the premises as per permissible limits.	

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
	suitable open land in nearby locality and submit an action plan of plantation for next three years to GPCB.	
6.2	Adequate plantation shall be carried out all along the periphery of the industrial premises in such a way that the density of plantation is at least 1000 trees per acre of land and a green belt of 10 meters width is developed.	We have already earmarked the area Approx.10 Square meter at periphery area of their own plot for development of greenbelt.
6.3	The applicant shall have to submit the returns in prescribed form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act- 1977.	We do meet the condition
6.4	In case of change of ownership /management the name and address of the new owners / partners / Directors/ proprietor should immediately be intimated to the Board.	We are immediately intimate to GPCB in case of change of ownership/ management the name and address of the new owners/ partners/ directors/ proprietor.
6.5	The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the Water Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986.	Noted and shall be complied.
6.6	The applicant also comply with the General conditions as per Annexure - I attached herewith (No.1 to 38) (whichever applicable).	Noted and compiled with applicable general condition. (Refer Annexure-I)
6.7	The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering control like acoustic insulation hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under the Environment (Protection) Act, 1986 & Rules.	No manufacturing activity involved. Only storage of Non-Hazardous dry cargo. Hence, no installation of any noise generation instrument / Device.
6.8	Applicant is required to comply with the manufacturing, Storage and Import of Hazardous Chemicals Rules-1989 framed under the Environment (Protection) Act-1986.	NA, The unit handled only non-hazardous dry cargo for storage.
6.9	If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property .in that case they are obliged to pay the compensation as determined by the competent authority.	Point Noted and will be complied.

SR. NO.	CONSENT CONDITION POINTS	COMPLIANCE
SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:		
6.10	Applicant shall have to comply with all the guidelines/Directive issued/ being issued by MoEF /CPCB/ DoEF from time to time.	Point Noted and will be complied.
6.11	Applicant shall not use/withdraw ground water either during construction or for operation phase.	No any ground water has been tapped by us.
6.12	Environmental cell shall be setup and shall be responsible for the total Environmental management.	We so meet the condition.
6.13	Monitoring in respect to Air, Water, Noise level shall be carried out and results shall be submitted to this Board on quarterly basis.	We have appointed the GPCB approved Environmental Consultant for carry out Environmental Monitoring at Plot No. 26.

Annexure - I

GENERAL CONDITIONS

SR. NO.	CONDITIONS	COMPLIANCE
1.	In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board. The applicant shall not commence the production until consent under Water (Prevention and control of Pollution) Act-1974, Air (Prevention and control of Pollution) Act-1981 and authorization under hazardous waste (Management and Handling) Rules-1989 is obtained.	Point Noted and will be complied.
2.	If the products, process falls in SCHEDULE-I or II of the Environmental Audit Scheme, as specified in the order dated 13/03/97 of Hon. High Court in MCA No.326/97 in SCA No.770/95, the applicant shall also abide by the said scheme.	Noted and Complied.
3.	The applicant shall have to register the unit under the provisions of the factories act-1948 and shall obtain the necessary factory license.	Point Noted
4.	The environmental Management unit/cell shall be set up to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/unit shall directly report to the chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells / units shall also coordinate the exercise of Environmental Audit and preparation of Environmental Statements.	Not Applicable, The unit handled only non-hazardous dry cargo for storage.
5.	The applicant shall have to obtain P.L.I Policy as per P.L.I Act-1991 and submit the copy of the same to the GPCB.	Point Noted and copy already submitted with earlier report.
6.	The concentration of Noise on ambient air within the factory premises shall not exceed the following limit: Between 6 AM to 10 PM : 75 dB (A) Between 10 PM to 6AM : 70 dB (A)	We do meet the Condition.
7.	The unit shall, on establishing this plant: a) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products / process and the names of the proprietor/ partners / Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB. b) Make adequate lighting arrangements all around the effluent treatment plants pollution control measures and also above the boards mentioned in the above clause	Noted and Complied. Point Noted
8.	The Environmental Audit shall be carried out yearly and the Environmental Statement pertaining to previous year shall be submitted to the Board latest by 30th September every year.	Point Noted
9.	The unit shall have and use only one outlet for discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with GPCB norms. Such outlets shall be near the front gate/ entrance of the unit. The unit shall not keep any bypass line system or loose or flexible pipe for discharging pipe effluent outside or	Not Applicable. There is no any Industrial Effluent discharged by our unit.

	even for transporting treated or untreated effluent within the factory premises, within Effluent Treatment Plants or in the compound of the unit.	
10.	Magnetic Flow Meters should be installed at inlet and outlet of the Effluent Treatment Plant (ETP thereafter)	N.A.
11.	All chemicals and nutrients which are required to be added/ dosed anywhere in the ETP should be so added by using "Metering Pumps" only.	N.A.
12.	The pipeline connecting various equipment's or sumps of tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.	N.A.
13.	In case of incinerators the unit shall provide the flow measuring devices with incinerators at different point's scrubber, outside the incinerator should be provided. The temperatures as well as flow should be recorded, every day.	N.A.
14.	In case of plants involving Bio-mass Treatment. For each addition of the biomass time and quantity recorded. The uptake rate of oxygen of the bio-mass in the aeration basis and other parameters of biological system should be recorded every day.	N.A.
15.	<p>The printed log books shall be maintained and get it certified for:</p> <p>a) Energy/ fuel consumption/ Raw material Consumption and quality of products manufactured.</p> <p>b) Wastewater/gaseous flow at inlet and outlet of ETP and air pollution Control Measures</p> <p>c) Quantity of sludge generated</p> <p>d) Laboratory analysis/ reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.</p>	N.A.
16.	The unit shall operate full and efficiently all its effluent treatment plants and shall close down all its manufacturing processing activities whenever the effluent treatment plant/s or any part are fully or partly non-operational for any reason whatsoever (Whether Maintenance/ repairs/ electricity failure or otherwise) and shall not restart such activities unless and until all the effluent treatment plants of the unit are fully operational.	N.A.
17.	The unit shall have and operate all the requisite equipment's/ facilities for prevention and control of air pollution and shall operate the same. The unit shall also have stack monitoring facilities. Whenever the equipment/facilities for prevention and control of air pollution are fully or partly non-functional, the unit shall close down all its manufacturing / processing activities and shall not restart its manufacturing/processing activities unless and until all its air pollution protection and control equipment's and facilities including stack monitoring facilities are fully operational.	NA, The unit handled only non-hazardous dry cargo for storage.
18.	The unit shall submit, before commencing the production to the GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing /processing plant as also the effluent treatment plants and also separate plan indicating the channel through which water / effluent passes from different stages of manufacturing / processing and the effluent treatment process right up to the stage of its final outlet. Such plans shall also be displayed by the unit on a board of adequate size within its compound and near its	NA, The unit handled only non-hazardous dry cargo for storage. Complied whenever is applicable.

	effluent treatment plant/s.	
19.	The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on weekly basis. The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/ sub meter for such effluent treatment plants. The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on weekly basis.	Point Noted and will be complied.
20.	The unit shall also supply to the GPCB, within 1 week from the date of the starting production, the documents regarding monthly production and consumption of electricity.	Point Noted. However this is the unit of storage / warehouse/ godowns
21.	The unit shall permit the officers/employees of the GPCB/Government Members of the committee of the court, members of the Monitoring Committee of the Association of the industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above person's entry into the factory premises or any plant thereof on effluent treatment plants shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately apprised of the above.	Point Noted and complied.
22.	It shall be open to the GPCB through general instruction of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent plants, their operation and processes and disposal channel and disposal system. The unit shall comply with all such instructions whether general or special.	Point Noted
23.	When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution. The unit shall not use any diesel generating set or any other alternative source of energy or water tankers from outside. The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the Central/Practice followed so far.	Point Noted and we will complied with this whenever is applicable.
24.	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat pollution control Board. Regular effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the Gujarat pollution Control Board on monthly basis.	NA, The unit handled only non-hazardous dry cargo for storage. So, No any effluent generation from unit.
25.	Guards' ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event of failure or non-functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measure are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be	N.A.

	ensured.	
26.	The ground water quality around the guard ponds and landfill site should be monitored on regular basis. The monitored data should be submitted to this board once in six months.	N.A.
27.	The gaseous emission from various process units should adhere to the air emission standards specified in this order. At no time the emission should go beyond the prescribed standards. In the event of failure of any pollution control adopted by the unit, the respective unit should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.	N.A.
28.	<p>a) Ambient air quality monitoring station should be set up in the downwind direction as well as at locations where maximum ground level concentrations are anticipated. These locations should be fixed in consultation with the GPCB. The number of air quality monitoring stations and frequency of monitoring should be selected on the basis of mathematical modelling to represent short term ground level concentrations, human settlements, sensitive targets etc.</p> <p>b) Stack emissions from boiler and heater should be monitored for SO₂, NO_x, hydro Carbon and SPM and record maintained. On line continuous stack monitoring equipments should be provided for measurement of SO₂ and NO_x.</p> <p>c) Data on ambient air quality and stack emission from boiler and heater should be submitted to this Board once in a month along with the statistical analysis and interpretation.</p> <p>d) Fugitive emissions should be controlled, regularly monitored and data recorded. The monitored data should be submitted to this Board once in the month.</p>	Point Noted and complied.
29.	Low NO _x burner should be provided to avoid excessive formulation of NO _x . Only LSH will be used as a fuel during the Critical month to ensure that SO levels in the ambient air is within the norm Specified.	N.A.
30.	The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.	N.A.
31.	A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for future treatment. In case of specified items or Naphthalene based product and in the case of Pesticide waste, the leachate shall be totally incinerated after neutralization and / or after detoxification treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.	N.A.
32.	Handling manufacturing, storage and transport of hazardous chemicals should be in accordance with Manufacture, Storage and Import of Hazardous Chemical Rules-1989.	Not applicable. There is no generation of any Hazardous waste.
33.	The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environmental (Protection) Act-1986.	Not applicable. There is no generation of any Hazardous waste.

34	On site and off site emergency plan as required under the rules 13 and 14 of the Handling, Manufacture, Storage and Transport of the Hazardous Chemical Rules 1989 should be prepared and approval from the Board should be obtained.	Not applicable. There is no generation of any Hazardous waste.
35	A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.	Point Noted.
36	Periodical medical check up of the workers should be done and records maintained as a measures to provide occupational health service to the workers.	Point Noted.
37	The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the chief Executive.	Point Noted.
38	The funds earmarked for the Environmental Protection Measures should not be diverted for any other purpose and year wise expenditure should be reported to this board and to the Government.	Point Noted and complied.

Annexure -D

Monitoring the implementation of environmental Safeguards
Ministry of Environment, Forest and Climate Change
Western Region, Regional Office, Bhopal.
MONITORING REPORT (December -2017 to May -2018)
Part - 1
DATA SHEET

SR. NO.	PARTICULARS	COMPLIANCE
1.	Project type : River valley/ Mining/ Industry/thermal/nuclear/Other (specify)	Construction of Warehouses
2.	Name of the project	GOKUL AGRO RESOURCES LTD.
3.	Clearance Letter (s). OM no and date	Environment and CRZ clearance issued by SEIAA, Government of Gujarat, vide letter No. SEIAA/GUJ/EC/8(b)/2012, date: 27/11/2012
4.	Location	Plot No. 26, Outside west gate, New Kandla Dist.: Kutch State : Gujarat
5.	Address for Correspondence a) Address of Concerned Project Chief Engineer(with pin code & telephone/telex/fax numbers b) Address of Executive project Engineer/manager/(with pin code fax numbers)	Mr. GhanshyamMithwani Project Engineer, Gokul Agro Resources Ltd., MeghparBorichi, Tal. Anjar, Mobile no.: 9879113967
6.	Salient features of the project b) Salient features of the Environmental Management plan.	1. Warehouse stage II consist of development of plot no. 26 of total area of 15,690 m ² . 2. It is proposed to construct 7,826 m ² of storage area consisting of godowns, office, etc. 3. This warehouse mainly used for storage of non-hazardous dry cargo. 1. Master document of terms and conditions including the provision of environment management plan,

		<p>pollution mitigation measures, green belt development, safety related aspects etc. terms and incorporate the same as a part of the agreement deed have been made between Allottee of plot no. 26 and KPT.</p> <p>2. KPT has signed the MoU with GEC for Mangrove Plantation in an area of 300 Hac., out of which mangrove plantation in 150 Hac. Has been completed in the F.Y. 2016-17 and remaining shall carried out in the F.Y. 2017-18.</p> <p>3. Vehicles have been covered with tarpaulin for controlling the fugitive emission during the transportation of material at plot No. 26.</p> <p>4. Roads inside the plot No. 26 and connected to main road are paved to control the fugitive emissions during construction activities.</p>
7.	<p>Breakup of the project area</p> <p>a) Submergence area : forest & non-forest</p> <p>b) Others</p>	<p>Nil</p> <p>Nil</p>
8.	<p>Breakup of the project affected population with enumeration of those losing houses/dwelling units only agricultural land & landless labourers/artisen</p> <p>a) SC. ST/Adivasis</p> <p>b) Others</p>	<p>Nil</p> <p>Nil</p>
9.	<p>Financial details</p> <p>a) Project cost as originally planned and subsequent revised estimates and the year of prices reference</p> <p>b) Allocation made for environmental management plans with item wise and year wise break-up</p> <p>c) Benefit cost ratio/Internal rate of Return and the year of assessment Whether (c) includes the cost of environmental management plans so far.</p>	<p>Planned Project Cost: 5.45 Crore</p> <p>Planned EMP Cost: NA</p> <p>FIRR EIRR</p>

	d) Actual expenditure incurred on the project e) Actual expenditure incurred on the Environmental management plans so far.	Actual Project Cost: 4.69 Crore Actual provided fund for EMP: Nil
10.	Forest land requirement a) The status of approval for diversion of forest land for non-forestry use b) The status of clear felling c) The status of compensatory a forestation, if any d) Comments on the viability & sustainability of compensatory a forestation programmed in the light of actual field experience so far	Nil Nil-Not related Nil Nil Nil
11.	The status of clear felling in non-forest areas (such as submergence area of reservoir, approach roads), if any with quantitative information.	Nil
12.	Status of construction a) Date of commencement (Actual and/or planned) b) Date of completion (Actual and/or planned)	October-2015 July-2016
13.	Reasons for the delay if the Project is yet to start	---
14.	Date of site visited a) The dates on which the project was monitored by the regional office on pervious occasion. if any b) The date site visit for this monitoring report	---

Annexure - E
(Last submission acknowledgement copy)

Ref. : Gokul/Plot 26/Compliance /2022/066

June 06, 2022

The Environment Cell
Deendayal Port Trust
Gandhidham - 370201

Sub. : Submission of EC & CRZ Half Yearly Report: December-2021 to May-2022.

Ref.: EC/CRZ issued vide letter No.: SEIAA/GUJ/EC/8(b)/351/2012, dated 27/11/2012.

Dear Sir,

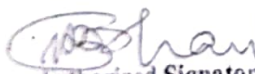
We are pleased to submit herewith the required Six Monthly Compliance Report for the period from December 2021 to May 2022 for Plot NO. 26.

Kindly acknowledge receipt of the same.

Thanking you

Yours sincerely

M/s. GOKUL AGRO RESOURCES LTD.


Authorized Signatory



Encls. : As above



Annexure -II

SUBJECT: Pointwise compliance report of EC and CRZ Clearance for Development of plots for construction of Warehouses / Godowns (Stage II) at Kandla, Dist. Kutch Reg. (Period Upto Nov 2022).

Reference: EC & CRZ Clearance accorded vide no. SEIAA/GUJ/EC/8(b)/325/2012 dated 27/11/2012 by the SEIAA, Gujarat.

Statement Showing Allotment of Plots for the construction warehouse / Godown (Stage-II) At Deendayal Port Authority, Kandla.

Out of a total of 49 plots, 14 plots have already been allotted. The remaining plots will be allotted as per the demand of port users following the due e -tendering cum e-auction process.

<u>Plot No</u>	<u>Name of Plot Allottee</u>	<u>Allotment Date</u>	<u>Present Status</u>
17	M/s Shreeji Exports	22/11/2013	Work completed and Commercial operation started.
18	M/S Gokul Refoils & solvent Ltd	22/11/2013	Work completed and Commercial operation started.
19	M/S Gokul Refoils & solvent Ltd	22/11/2013	Work completed and Commercial operation started.
26	M/s Gokul Agro Resource Ltd	22/11/2013	Work completed and Commercial operation started.
31	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
33	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
34	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
35	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
39	M/s Friends Salt Works and Allied Industries	10/10/2022	Open Plot
38	M/s Shreeji Exports	28/09/2022	Open Plot
49	M/S ACT Infraport Ltd	05/01/2015	Work completed and Commercial operation started.
52	M/s Shiv Shipping Services	03/09/2022	Open Plot
53	M/s Siddhivinayak Warehousing	03/09/2022	Open Plot
65	M/S A&I Hospitality Pvt Ltd	22/11/2013	Work completed and Commercial operation started.

Further, the Six-Monthly compliance report of the stipulated Condition Mentioned in Environment & CRZ Clearance submitted by the plot allottees is placed in **Annexure A**.

Compliance with Stipulated Conditions:

Sr. No	Condition	Status
SPECIFIC CONDITIONS-		
1.	Kandla Port Trust [KPT] shall prepare a master document of terms and conditions including the provision of environment management plan, pollution mitigation measures, green belt development, safety related aspects etc. and incorporate the same as a part of the agreement deed with the bidders of Warehouses /Godowns. KPT shall be the responsible for noncompliance or violation of any of the terms & conditions mentioned in the master document.	DPA had already informed in earlier compliance reports submitted, about the master document of terms and conditions already prepared including the provision of the environment management plan, pollution mitigation measures, green belt development, safety-related aspects, etc., and incorporated the same in the lease deeds executed with the plot allottees. All the Plot allottees have submitted assurance for compliance with the terms & conditions of the master Document.
2	KPT shall not allow storage of those materials in Warehouses / Godowns, which are not permissible as per the CRZ notification-2011, 2011, as may be Amended from time to time.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The Plot allottees have submitted that only those materials which are permissible as per CRZ notification, 2011 is being stored.
3	The provisions of the CRZ notification-2011 shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ notification-2011 shall be carried out by the KPT. The KPT shall carry out only permissible activities within the CRZ areas.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The Plot allottees have submitted that only those activities which are permissible as per CRZ notification, 2011 as amended from time to time, are being carried out.
4	Mangroves plantation in an area of 200 ha. shall be carried out by the KPT within 2 years in a time-bound manner on Gujarat coastline either within or outside the Kandla Port Trust area and six monthly compliance report along with the satellite images and GPS readings with Latitude and Longitude shall be submitted to the Ministry of Environment and Forests as well as to this Department without fail.	DPA has undertaken mangrove plantations in an area of 1400 ha. since 2005-06 through various agencies. Further, DPA is carrying out an additional mangrove plantation of 100 ha. with the consultation of the Gujarat Ecology Commission. Further, the Study on the present Status, Conservation, and Management Plan for Mangroves of Kandla Port region submitted by M/s GUIDE, Bhuj,

Sr. No	Condition	Status
		<p>had already been communicated to the GCZMA & to the MoEF&CC, GoI.</p> <p>–In addition to the above, DPA appointed M/s GUIDE, Bhuj for “Regular Monitoring of Mangrove Plantation carried out by DPA” (period 15/9/2017 to 14/9/2018 vide work order dated 1/9/2017 and 24/5/2021 to 23/5/2022 vide work order dated 3/5/2021).</p> <p>The report submitted by GUIDE for 2021 and 2022 is submitted as Annexure B</p>
5	<p>All necessary permissions from different Government Departments/agencies shall be obtained by the KPT before commencing the expansion activities.</p>	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that, they have started activities only after obtaining the requisite permission from DPA.</p> <p>Also, DPA has already obtained NOC from GPCB, vide letter GPCB/CCA-KUTCH-799/GPCB ID 29700/117726 dated 11/07/2012. Further, GPCB granted amendment in CTE vide letter no. PC/CCA-KUTCH-799/GPCB ID-29700 dated 04/08/2018 also, later obtained amendment in CTE vide letter no. PC/CCA-KUTCH-799(2)/GPCB ID: 29700 dated 26/11/2022.</p> <p>However, as per the provision of lease deed regarding obtaining statutory clearance, if any, in future, by the respective plot allottee, they will obtain all the necessary permissions as applicable.</p>
6	<p>No ground water shall be tapped for any purpose during the construction and operation phases.</p>	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that, they have not tapped Groundwater for any purpose and appointed local water Supplier for their water requirement during construction phase and also submitted assurance</p>

Sr. No	Condition	Status
		that, they will not tap ground water during operation also.
7	No effluent or sewage shall be discharged into the sea / creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused / recycled within the premises.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that, they have already provided the necessary septic tank/soak pit for treatment of sewage.
8	The construction and operational activities shall be carried out in such a way that there are no negative impacts on mangroves and other coastal/marine habitats. The construction and reclamation activities shall be carried out only under the constant supervision and guidelines of the NIOT.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that, they had carried out construction activities in compliance of this stipulated condition.
9	KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that, they have already earmarked areas for the development of a greenbelt i.e. 10 meters at the periphery of the plot.</p> <p>DPA had entrusted the work to Forest Department, Gujarat for developing a green belt in and around the Port area at a cost of Rs. 352 lakhs in an area of about 32 hectares and the work has already been completed.</p> <p>Further, DPA has appointed the Gujarat Institute of Desert Ecology (GUIDE) for "Green belt development in Deendayal Port Authority and its Surrounding Areas, Charcoal site' (Phase-I)" vide Work Order No.EG/WK/4757/Part [Greenbelt GUIDE], dated 31st May 2022 (Annexure C).</p>
10.	An Environmental Audit Report indicating the changes, if any, with respect to the baseline environmental quality in the coastal and marine environment shall be submitted every year by the KPT to	<p>DPA regularly carried out Environment auditing from the year 2010 to upto 2015 through schedule I Auditor of GPCB.</p> <p>Subsequently, as per GPCB direction, for the year 2015-16 (April 2015 to</p>

Sr. No	Condition	Status
	F&ED, SEIAA as well as MoEF, GOI.	May 2016) GPCB assigned auditing to M/s Marwadi Education foundation. However, after that GPCB has not assigned Environmental auditing of DPA to any agency.
A.1 CONSTRUCTION PHASE:		
11	KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that no creeks or rivers have been blocked due to construction activities carried out by the respective plot allottee.
12	Water requirement during the construction phase shall be met by Narmada water supply pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have appointed a local water Supplier for their water requirement.
13	All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have already provided the required sanitation & hygienic measures and the same was maintained throughout the construction phase.
14	The construction site shall be provided with barricades of adequate height on its periphery with adequate signage.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that necessary barricades with adequate height at the periphery area of plots along with signage have been provided.
15	Water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that measures for Controlling fugitive emissions have been provided and Water sprinkling will be done whenever needed.

Sr. No	Condition	Status
16	Material shall be covered during transportation to avoid the fugitive Emission.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that vehicles for the transportation of construction materials have been covered with tarpaulin for controlling the fugitive emission during the transportation of material.
17	The roads inside the project area and roads connected to the main road shall be paved or shall be water sprinkled to avoid the fugitive emissions during construction.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that Roads inside the project area and connected to the main road has been paved to control the fugitive emissions during construction activities.
18	Adequate drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, rest rooms, safe disposal system for waste garbage, first aid, medical and emergency facilities shall be provided for construction workers to ensure that they do no ruin the existing environmental condition	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that the necessary arrangement for drinking water and sanitation facilities, fuel (kerosene or cooking gas), utensils crèches, canteen, restrooms, safe disposal system for waste garbage, first aid, medical and emergency facilities have been provided.
19	Adequate personal protective equipment shall be provided to the construction workers to ensure their safety and the project proponent shall ensure its usage by the labours.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that necessary PPE had been provided to workers and the same has been monitored to ensure the usage of PPEs by labours.
20	All topsoil excavated during construction activities should be stored separately for use in horticultural/landscape development within the project site.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that the topsoil excavated during construction activities will be stored and will be used for the development of a greenbelt on their own premises.
21	The construction debris and /or any other type of waste shall not be disposed of into the sea, creek or in the CRZ areas. The debris shall be	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted

Sr. No	Condition	Status
	removed from the construction site immediately after the construction is over and disposed of as may be advised by the GPCB.	that they will not dispose-off the construction debris or any other type of waste into the sea, creek, or in the CRZ areas. Construction debris will be removed immediately after construction activities are completed and the same will be disposed of as per the GPCB norms / Construction and Demolition Rule, 2016.
22	The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not Deteriorated by the construction labours.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees submitted that no construction camps are required at the project site as only local labours are involved. Necessary amenities, including sanitation, water supply and fuel, etc. have been provided to labours and plot allottees have ensured that no environmental conditions have been deteriorated by the construction labours.
23	Use of diesel generator sets during construction phase should be enclosed type and conforming to the EPA Rules for air and noise emission standards.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees submitted that Acoustic enclosure DG sets have been used, conforming to the EPA Rules for air and noise emission standards.
24	Vehicles hired for bringing construction material at site should be in good conditions and conform to applicable air and noise emission standards and should be operated only during non-peak hours.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees submitted that vehicles have been hired for bringing construction materials to the site with PUC certification only and as the plot is connected with National Highway so transporting activities are carried out only during day time.
25	Ambient noise levels should confirm to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees submitted that the ambient air & noise levels have been complied with as per residential standards and are closely monitored.
26	Ready-made mix concrete should be used so far as possible.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26,

Sr. No	Condition	Status
		31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that RMC (Green concrete) has been used, as per requirement.
27	Water demand during construction Should be reduced by use of curing agents, plasticizers and other best practices.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that by implementing best practices water demand is minimized.
28	Fly ash should be used as building material in the construction as per provisions of Fly Ash Notification under EPA.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that fly ash has been used in construction, as per requirement.
29	Structural design aspects in accordance to the seismic zone shall be strictly adhered to.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that the construction activities are been carried out after getting the approval of the layout plan from the competent authority, following the seismic zone regulations.
30	The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisances by blocking the roads and public passages.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that Construction debris has been stored and handled, as per the requirement mentioned in the condition.
A2- OPERATION PHASE:		
31	Water requirement during operation phase shall be met by Narmada pipeline through GWSSB. Metering of water shall be done and its records shall be maintained.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The allottees (Plot no. 17, 26 & 49) have submitted that the water requirement is met through the Local water Supplier and also records will be maintained. Plot allottees (Plot no. 18, 19 & 65) have submitted that water requirements were fulfilled by the Narmada pipeline through GWSSB.
32	Sewage to the tune of 823 lit/day to	Out of a total of 49 plots, DPA allotted

Sr. No	Condition	Status
	be generated during operation phase shall be treated in the onsite STP. Entire quantity of treated sewage shall be utilized for flushing, gardening and HVAC cooling purpose. Dual plumbing system with separate tank sand lines shall be provided for reuse of treated sewage.	fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have already provided the necessary septic tank/soak pit for the treatment of sewage.
33	Low water consuming devices shall be provided. Fixtures for showers, toilet, flushing and drinking shall be of low flow either by use of aerators/diffusers or pressure reducing devices etc.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have used devices/fixtures as per the requirement of the condition.
34	The municipal solid waste shall be properly collected and segregated at source. Recyclable waste shall be sold off to vendors whereas non-recyclable wastes shall be disposed through the local body.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that Municipal solid waste is being disposed of through authorized vendors.
35	Hazardous wastes i.e. used oil generated from DG set / other machinery overhauling and transformer oil replacement shall be sold off to the registered recyclers and any other type of hazardous waste generating from the project if any, shall be disposed as per the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008, as may be amended from time to time.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that the establishment will be used for storage of dry cargo only, and hence no hazardous waste generation is envisaged. However, Generated Hazardous wastes (used oil from DG set) will be handed over to the authorized vendor for recycling.
36	The stack height of the DG Sets shall be equal to the height needed for the combined capacity of all proposed DG sets. The gaseous emissions from the D. G. Sets shall conform to the Standards prescribed by GPCB. At no time, the emission levels shall go beyond the stipulated standards.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot Allottees (Plot no. 17, 18, 19 & 49) have submitted that the stack height of D.G. sets will be provided as per the requirement of the condition. Further, due care will be taken for gaseous emissions from the D. G. Sets will be found under permissible limits as per the Standards prescribed by GPCB. Plot allottee no. 26 & 65 has stated that no DG set is installed at the site.

Sr. No	Condition	Status
37	The acoustic enclosures shall be installed at all noise generating equipment such as DG Sets, air conditioning systems, etc. and the noise level shall be maintained as per the MoEF / CPCB guidelines / norms both during day and night time.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottees (Plot no. 17, 18, 19 & 49) have submitted that necessary acoustic enclosures have been provided as per the requirement of the condition. Plot allottee no. 26 & 65 has stated that no DG set is installed at the site.
38	The green belt shall be developed along the boundary and internal roads. The open spaces inside the project shall be suitably landscaped and covered with vegetation of indigenous variety. The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the lawns and other green areas including tree plantation.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they will provide the necessary Green belt in boundary and internal roads with adequate water springing arrangement.
39	Adequate parking space shall be provided as per the local by-laws and NBC guidelines, whichever is stringent. The area earmarked for the parking shall be used for parking only. No other activity shall be permitted in this area.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that the necessary Parking area as per NBC guidelines, has already been provided.
40	No public space shall be used or blocked for the parking and the trained staff shall be deployed to guide the visitors for parking. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that a necessary parking facility has been provided to avoid congestion, in their premises.
41	The project proponent shall install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable. Energy Conservation Building Code [ECBC] norms shall be implemented in the project.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have provided the necessary energy-efficient devices as per the requirement of the condition.
42	The transformers and motors shall have minimum efficiency of 85%. Only variable frequency motor drives	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 &

Sr. No	Condition	Status
	shall be used in the project. Solar lights shall be provided in the open sunlit areas.	65). The plot allottees have submitted that they have provided transformers and motors as per the requirement of the condition and provided necessary solar lighting in open areas.
43	The energy audit shall be conducted at regular interval for the project and the recommendations of the Audit Report shall be implemented with spirit.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they will carry out an energy audit.
44	Adequate measures shall be taken for fire and life safety as per the provisions of the NBC guidelines. Sufficient peripheral open passage shall be kept for free movement of fire tender/ emergency vehicle around the premises.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that adequate measures have been taken for Fire and Life Safety as per the provisions of the NBC guidelines. Also, they submitted in the compliance report that they have earmarked the area/open passages for free movement of the fire tender/emergency vehicles around the premises.
45	The project management shall prepare a detailed Disaster Management Plan (DMP) for the operational phase of the project.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). Plot allottee (Plot no. 18, 19, 65 & 49) have submitted that DMP is under process and the same will be submitted to statutory authorities after finalization. Plot allottee no. 17 has stated that they have DMP in place. However, DPA is already having DMP and is attached as (Annexure D) .
46	Necessary emergency lighting system along with emergency power back up system shall be provided. In addition emergency siren/public address system arrangement shall be provided in the township. Necessary signage/maps at all appropriate places shall be provided to guide the people towards exits and assembly points during the unforeseen emergency and Untoward conditions.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have provided the necessary emergency lighting system and other requirements, in compliance with the condition. Further, necessary signage/maps have been provided at entry & exit points.
47	Compulsory Training to the staff for the first aid and fire-fighting along	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26,

Sr. No	Condition	Status
	with regular mock drill shall be made an integral part of the emergency Management plan of the project.	31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted the necessary training for first aid and fire-fighting along with regular mock drills they have noted the condition and will be complied.
48	First Aid Boxes shall be made readily Available in adequate quantity at all the times.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have provided First Aid Boxes on their premises.
49	The project proponent shall ensure maximum employment to the local people.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees submitted that they are operating their premises with their existing employees.
50	The project management shall also comply with all the environment protection measures, risk mitigation measures and safeguards proposed by them.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that due care is being taken for compliance with environmental protection measures.
OTHER CONDITION		
51	A separate environmental management cell with qualified personnel shall be created for Environmental monitoring and management during construction and operational phases of the project.	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have appointed recognized Environmental consultants having NABL approved the laboratory to carry out Environmental Monitoring during the construction & operation phase of the project.</p> <p>DPA already has a dedicated Environment Management Cell, run by an expert agency to provide environmental experts from time to time. Recently, DPA appointed M/s Precitech Laboratories Pvt. Ltd., Vapi, for three years vide work order dated 5/2/2021 (Annexure E).</p>

Sr. No	Condition	Status
		<p>Further, DPA has appointed a Manager Environment on a contractual basis for 3+2 years. A copy of the office order is attached herewith as Annexure F.</p> <p>Further, DPA has been regularly conducting Environmental Monitoring & Management since 2016 through various NABL-accredited agencies. The Environmental Monitoring and Management Plan is attached herewith as Annexure G.</p>
52	All the recommendations and suggestions given by NIOT in their Environment Impact Assessment Report for conservation, protection and betterment of environment shall be implemented strictly by the KPT.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have taken necessary steps for the protection & betterment of the environment.
53	KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and shall also take lead in preparing and operationalizing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	Deendayal Port Authority has earmarked an amount of Rs. 41.25 crores i.e. 25% of the total project cost of 165 crores for installing and operating the VTMS in the Gulf of Kachchh. DPA is also having a Local Oil Spill Contingency Plan under the jurisdiction of DPA (Annexure H).
54	KPT shall have to contribute financially for taking up the socioeconomic Upliftment activities in this region in consultation with the Forests and Environment Department and the District Collector / District Development Officer.	DPA has been regularly carrying out CSR activities. The list of activities is provided in Annexure I .
55	KPT shall contribute financially for any common study or project that may be proposed by the Forests & Environment Department (F&ED) for environmental Management/conservation/ improvement for the Gulf of Kutch.	Noted for compliance.
56	KPT shall bear the cost of the external agency that may be appointed by F&ED / SEIAA for supervision/monitoring of proposed activities and the environmental impacts of the proposed activities.	Noted for compliance.

Sr. No	Condition	Status
57	KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in Gujarat by the GEER Foundation, Gandhinagar, in consultation with Forests and Environment Department	Noted for compliance.
58	A separate budget shall be earmarked for environmental management and socio-economic activities including the greenbelt /Mangrove plantation and details thereof shall be furnished to F&ED, SEIAA as well as MoEF, GoI. The details with respect to the Expenditure from this budget head shall also be furnished along with the compliance report.	<p>Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they have already earmarked a separate budget for environmental management, and socio-economic activity including the greenbelt.</p> <p>DPA has undertaken mangrove plantations in an area of 1500 ha. since 2005-06 through various agencies. Plantation details are attached herewith as Annexure J.</p> <p>Further, DPA is carrying out an additional 100 ha. mangrove plantation vide Work Order No. DD/WK/3050/Pt-I/GIM/PC-44 dated 02/06/2022 with the consultation of the Gujarat Ecology Commission (Annexure K).</p> <p>Further, the Study on the present Status, Conservation, and Management Plan for Mangroves of Kandla Port region submitted by M/s GUIDE, Bhuj, had already been communicated to the GCZMA & to the MoEF&CC, GoI.</p> <p>In addition to the above, DPA appointed M/s GUIDE, Bhuj for "Regular Monitoring of Mangrove Plantation carried out by DPA" (period 15/9/2017 to 14/9/2018 vide work order dated 1/9/2017 and 24/5/2021 to 23/5/2022 vide work order dated 3/5/2021).</p> <p>The report submitted by GUIDE for 2021 and 2022 is submitted as Annexure B</p>

Sr. No	Condition	Status
59	Movement of vehicles in the Inter Tidal Zone shall be restricted to the minimum so as to maintain ecological features and avoid damage to the ecosystem.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that no vehicle movement in the inter-tidal zone has been carried out.
60	A six-monthly report on compliance of the stipulated conditions shall have to be furnished by the KPT in hard and soft copies to the regulatory authorities concerned, on 1st June and 1st December of each calendar year.	Noted for compliance.
61	No further expansion or modification or development likely to cause environmental impact shall be carried out without obtaining prior clearance from the concerned authority.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted their agreement with the condition.
62	Any other condition that may be stipulated by F&ED and SEIAA from time to time for environmental protection/management purposes shall also have to be complied with by the KPT	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted their agreement with the condition.
63	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the Implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted their agreement with the condition.
64	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local Newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the	Advertisement published in Times of India and Kutch Mitra on dated 05/01/2013 and news-paper cuttings already sent to Regional Office, Bhopal, MoEF&CC vide letter No.: EG/WK/4716(EC)/part-I/640 dt 14/01/2013.

Sr. No	Condition	Status
	concerned Regional Office of the Ministry	
65	The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	The compliance report of the NOC of GPCB is enclosed herewith as <u>Annexure L.</u>
66	The project authorities shall inform the GPCB, Regional Office of MoEF, and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	DPA in Compliance report submitted has already informed about the status of the project.
67	The SEIAA may revoke or suspend the clearance if the implementation of any of the above conditions is not found satisfactory.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted their agreement with the condition.
68	The above conditions will be forced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Municipal Solid Wastes (Management and Handling) Rules, 2000 and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time.	Out of a total of 49 plots, DPA allotted fourteen plots (Plot no. 17, 18, 19, 26, 31, 33, 34, 35, 38, 39, 49, 52, 53 & 65). The plot allottees have submitted that they will abide by these stipulations.
69	This environmental clearance is valid for five years from the date of issue.	Point Noted.

Annexure -III

ENVIRONMENTAL MONITORING REPORT FOR DEENDAYAL PORT AUTHORITY



REPORT : DCPL/DPA/21-22/31

Mont : November 01

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EXECUTIVE SUMMARY

ENVIRONMENTAL MONITORING PLAN FOR DEENDAYAL PORT ENVIRONMENTAL MONITORING REPORT- NOVEMBER, 2022

1. EXECUTIVE SUMMARY

Monitoring of various environmental aspects of the Deendayal port by M/s Detox Corporation Pvt. Ltd. has been carried out through collection of samples, analysis of the same, comparing results with respect to the national standards and any other relevant standards by GBCB/CPCB/MoEF & CC to understand status of various parameters in the Environment of the Deendayal Port. The results shall address the identified impacts and suggest measures to minimize the environmental impact due to various operations at Deendayal Port.

A) Ambient Air

The monitoring of Ambient Air quality at 6-locations at Deendayal Port Authority Kandla and 2- location at Vadinar Port on 24 hourly basis for TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂, NH₃, CO₂, CO, C₆H₆ and NMHC in twice a week 24 hourly at uniform intervals (as per NAAQS) at Gopalpuri, Tuna Port, Marine Bhavan Building, Coal storage area, Estate building, Oil jetty and at Vadinar port, Vadinar Jetty and Vadinar colony area using respirable dust sampler, Fine particulate sampler and gaseous sampler.

The Maximum TSPM values in month of November 2022 were found 846 µg/m³ at Coal Storage area on 25.11.2022 and minimum 107 µg/m³ at Gopalpuri Hospital on 01.11.2022. The Maximum PM₁₀ values were 654 µg/m³ at Coal Storage area on 25.11.2022 and minimum was 67 µg/m³ at Gopalpuri Hospital 01.11.2022. Maximum PM_{2.5} values were 187 µg/m³ at Coal Storage area on 25.11.2022 and minimum was 34 µg/m³ at Gopalpuri on 01.11. 2022. The PM₁₀ and PM_{2.5} values were found for all monitoring locations (Marine Bhavan Building, Oil Jetty, Estate Office, Gopalpuri, Coal Storage Area and Tuna Port) to exceed the Standard limit (NAAQS).

At Gopalpuri location the mean concentration of PM₁₀ was 127 µg/m³ & PM_{2.5} was 66 µg/m³ which are slightly exceed the Standard limit (NAAQS).

The AAQ monitoring for Vadinar at Admin building the mean TSPM, PM₁₀ and PM_{2.5} were 237 µg/m³, 138 µg/m³ and 97 µg/m³ respectively which was exceed the Standard limit (NAAQS) the while at Signal Building the mean TSPM, PM₁₀ and PM_{2.5} were 113 µg/m³, 74 µg/m³ and 38 µg/m³ respectively slightly exceed the Standard limit (NAAQS).

The overall values of November for Gaseous SO₂, NO₂, NH₃, CO₂, CO, C₆H₆ concentration were within the permissible limit at all location and NMHC were found BQL (Below Quantification Limit).

B) Weather

The mean day time temperature at Deendayal Port was 27.92 °C. The day-time maximum temperature was 32.9°C and minimum was 21.1 °C. The mean night time temperature recorded was 25.47 °C. The night-time maximum temperature was 29.7°C and minimum was 20.0 °C. The mean Solar Radiation in November month was 167.27 w/m². The maximum solar radiation was recorded 759 w/m² in 4th November, 2022 and the minimum solar radiation was recorded 1.80 w/m² in 30th November, 2022. The mean Relative humidity was 69.00 % for the month of November. Maximum Relative humidity was recorded 99.0 % and minimum Relative humidity was recorded 34.0 %. The average wind velocity for the entire month of November was 1.21 m/s. Maximum wind velocity was recorded 10.19 m/s. The wind direction was mostly West-South.

C) Marine Ecology (Flora and Fauna) / Marine Water / Sediments:

The results obtained from the study for the month of November 2022 for biological and ecological parameters in marine water for Arabian Sea at surrounding area of Deendayal Port Authority (DPA) Kandla and Vadinar were not affected by Port activities.

D) Drinking Water Quality

The drinking water being supplied to Deendayal Port Authority was safe for drinking purpose. At all drinking water monitoring stations around port area were in line with the standard limit as per the drinking water specifications given in IS 10500:2012 as per tested parameters only.

The average results for 20 locations were as: pH were found Min 7.24 and maximum 7.52, TDS were found min 300.0 mg/l and Max found 1060.0 mg/l, Chloride were found Min 140.31 mg/l and Max 576.28 mg/l, Total Hardness were found Min 270.0 mg/l and Max 380.0 mg/l and Calcium were found Min 34.47 mg/l and Max 43.29 mg/l, color were colorless and odor were odorless. In all water samples BOD, Heavy metal like manganese, Hexavalent chromium, Copper, Cadmium, Arsenic, Mercury, Lead, zinc all are found BQL (Below Quantification Limit). The bacterial count (E-coli & Coliform) is absent in all drinking water samples.

E) Monitoring Performance of Sewage Treatment Plant

It was seen that the performance of STP at Deendayal Township Gopalpuri, DPA STP Plant Kandla and Vadinar STP plant was satisfactory by overall. The treatment plant was well maintained during [November 2022] with considerable removal efficiency achieving the standards prescribed for final disposal. At Gopalpuri STP, the pollutant removal efficiency for TSS, BOD and COD was ranged from 49.66-81.04%, 58.97-68.42% and 45.45-73.33% respectively. At Kandla STP, removal efficiency for TSS, BOD and COD was ranged from 53.47-73.49%, 46.15-76.74% and 50.00-82.35% respectively & at Vadinar STP removal efficiency for TSS, BOD and COD was ranged from 42.09-56.69%, 50.00-78.12% and 60.00-84.61% respectively. At all STP location treated waste water the pH were ranged from 7.21-7.42, Total Suspended Solids were found 16.9-67.9 mg/l, Residual Chlorine were below Detection Limit (< 0.5), COD were found 20-60 mg/l and 3day BOD @ 27 °C were found 7.0-16.0 mg/l.

F) Noise

Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships. The Day Time Noise Level (SPL) in all 10 locations at Deendayal Port Authority ranged from 53.2 dB(A) to 70.4 dB(A) while at Vadinar port 3 location ranged from 52.5 dB(A) to 60.6 dB(A) which was within the permissible limits of 75 dB(A) for the industrial area for the daytime. The Night Time Average Noise Level (SPL) in all locations of Deendayal Port Authority ranged from 45.4 dB to 61.7 dB(A) while at Vadinar port ranged from 52.5 dB (A) to 60.6 dB(A) which was within the permissible limits of 70 dB(A) for the industrial area for the night time.



CHAPTER-1

INTRODUCTION

DEENDAYAL PORT AUTHORITY

1.0 Introduction

About Deendayal Port

The Deendayal Port is situated in the Kandla Creek and is 90 Kms. From the mouth of Gulf of Kachchh. Latitude: 23° 01" N Longitude: 70° 13"E. Deendayal Port's journey began in 1931 with construction of RCC Jetty by Maharao Khengarji. After partition, Deendayal Port's success story has continued and it rise to the No. 1 Port in India in the year 2007-08 and since then retained the position for the 15 consecutive year. On 31.03.2016, Deendayal Port created history by handling 100 MMT cargoes in a year, the first Major Port to achieve the milestone. Kandla, also known as the Deendayal Port Authority is a seaport in Kutch District of Gujarat state in western India, near the city of Gandhidham. Located on the Gulf of Kutch, it is one of major ports on west coast. Kandla was constructed in the 1950s as the chief seaport serving western India, after the partition of India from Pakistan left the port of Karachi in Pakistan. The Port of Deendayal is located on the Gulf of Kutch on the northwestern coast of India some 256 nautical miles North West of the Port of Karachi in Pakistan and over 430 nautical miles north-northwest of the Port of Mumbai (Bombay). It is the largest port of India by volume of cargo handled. Kandla history Deendayal Port Authority, India's busiest major port in recent years, is gearing to add substantial cargo handling capacity with private sector participation. Deendayal port Authority creates a new record by handling 127.10 million metric tons of cargo during the FY 2021-22, as against 117.566 million metric tons in FY 2020-21. Showing a growth of 8.11 %. Incidentally, DPA is the only major Indian port of handle more than 127 MMT cargo throughout and it has also registered the highest cargo throughput in its history. While the port has flagged off several projects related to infrastructure creation, DPA has successfully awarded the work of augmentation of liquid cargo handling capacity by revamping the existing pipeline network at the oil jetty area in Sept. 2021. Even as much of this growth has come from handling of crude oil imports, mainly for Essar Oil's Vadinar refinery in Gujarat, the port is also taking measures to boost non-POL cargo. Last fiscal, POL traffic accounted for 63 per cent of the total cargo handled at Deendayal Port, as against 59% in 2007-08. The Deendayal Port Authority had commissioned the Off-shore Oil Terminal facilities at Vadinar in the year 1978, for which M/s. Indian Oil Corporation Limited (IOCL) provided Single Bouy Mooring (SBM) system, having a capacity of 54 MMTPA, which was first of its kind in India. Further, significant. Quantum of infrastructural up-gradation has been affected & excellent maritime infrastructure been created at Vadinar for the 32 MMTPA Essar Oil Refinery in Jamnagar District. Monitoring of various environmental aspects of the Deendayal port by M/s Detox Corporation Pvt. Ltd. has been carried out through collection of samples, analysis of the same, comparing results with respect to the prescribed standards by GPCB/CPCB/MoEF& CC. The results shall address the identified impacts and suggest measures to minimize the environmental impact due to various operations at Deendayal Port. The environmental monitoring is carried out as per the Environment Management and Monitoring Plan submitted by Detox Corporation Pvt. Ltd.

CHAPTER-2

AMBIENT AIR QUALITY MONITORING

2. Introduction

Air pollutants are added in the atmosphere from variety of sources that change the composition of atmosphere and affect the biotic environment. The concentration of air pollutants depend not only on the quantities that are emitted from air pollution sources but also on the ability of the atmosphere to either absorb or disperse these emissions. The air pollution concentration vary spatially and temporarily causing the air pollution pattern to change with different locations and time due to changes in meteorological and topographical condition. Air pollution occurs when harmful substances including particulates and biological molecules are introduced into earth's atmosphere. It may cause diseases, allergies or death of humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment. Human activity and natural processes can both generate air pollution. A physical, biological or chemical alteration to the air in the atmosphere can be termed as pollution. It occurs when any harmful gases, dust, smoke enters into the atmosphere and makes it difficult for plants, animals and humans to survive as the air becomes dirty. The consequences of industrialization and the demand for improved quality of life has been increased exposure to air pollution (Vallero, 2014). An air pollutant is a substance in the air that can have adverse effects on humans and the ecosystem. The substance can be solid particles, liquid droplets, or gases. A pollutant can be of natural origin or man-made. Pollutants are classified as primary or secondary. Any gas could qualify as pollution if it reached a high enough concentration to do harm. Theoretically, that means there are dozens of different pollution gases. In practice, about ten different substances cause most concern. Heavy metals represent a class of omnipresent pollutants, with toxic potential, in some cases even at low exposure levels. They concentrate in each tropic level because of their weak mobility, so the concentration in plants is higher than in soil, in herbivore animals higher than in plants, in carnivores' tissues higher than in herbivore, the highest concentration being reached at the end of the tropic chain, at big predacious and human bodies. Globally, one of the main contributors to emissions of atmospheric pollutants and a significant user of energy is the industrial sector (Conti et al. 2015).

The concentration of air pollutants depends not only on the quantities that are emitted from the polluting sources, but also on the ability of the atmosphere to either absorb or disperse such emissions (USEPA, 2008).

Nowadays, the shipping sector provides low-cost and reliable delivery services in the economic field (Arunachalam et al. 2015). Nevertheless, shipping-related activities have a considerable impact on air pollution, especially in coastal areas but also globally (Buccolieri et al. 2016). The primary air pollutants are PM, VOCs, NO_x, O₃, SO₂, and CO (Bailey and Solomon 2004). As a consequence, a wide range of options toward “greener” seaports is needed (Bailey and Solomon 2004). Some of these measures are easy to adopt such as the regulation of fuel quality (by using low-sulfur alternative fuels), the speed reduction (Lack et al. 2011), and the use of alternative transportation equipment (Lai et al. 2011).

Clean air is the basic requirement of all living organisms. In recent times, due to population growth, urban sprawl, industrial development, and vehicular boom, the quality of air is deteriorating and being polluted. Pollutants of major public health concerns include particulate matter, carbon monoxide, ozone, nitrogen dioxide, and sulfur dioxide, which pose serious threats to human health and hygiene. In the present study, prime particulate pollutants (PM₁₀, PM_{2.5}), and gaseous pollutants (SO₂, and NO₂) were estimated at seven stations in and around Dahej Port, Gujarat, India (Soni and Jagruti Patel, 2017).

Among particulate pollutants, particulate matter (PM) is a ubiquitous entity, and is especially a grave problem due to its higher suspension rate into the atmosphere, and adverse health effects on plants, animals, humans, and materials in the form of visibility reduction, soiling of buildings, etc. (Horaginamani and Ravichandran, 2010; Chaurasia *et al.*, 2013).

The sources of air pollutants include vehicles, industries, domestic sources and natural sources. Because of the presence of high amount of air pollutants in the ambient air, the health of the population and property is getting adversely affected. In order to arrest the deterioration in air quality, Govt. of India has enacted Air (Prevention and Control of Pollution) Act in 1981. The responsibility has been further emphasized under Environment (Protection) Act, 1986. It is necessary to assess the present and anticipated air pollution through continuous air quality survey/monitoring programs. Therefore, Central Pollution Control Board had started National Ambient Air Quality Monitoring (NAAQM) Network during 1984 - 85 at national level. The programme was later renamed as National Air Quality Monitoring Programme (NAMP).

2.1 Ambient Air Quality Monitoring

As per the Environmental Monitoring Plan of Deendayal Port Authority, Air monitoring was carried out at six identified locations at Deendayal Port and two locations at Vadinar Port.

Table: 1. Ambient Air Sampling Location

Sr. No.	Name of Location	Location Code	Latitude	Longitude	Remarks
1.	Marine Bhavan	AL-1	23° 0' 26.524"N	70° 13' 22.414"E	DPA-Kandla
2.	Oil Jetty	AL-2	23° 1' 45.613"N	70° 13' 11.052"E	
3.	Estate Office	AL-3	23° 1' 11.273"N	70° 12' 48.657"E	
4.	Gopalpuri Hospital	AL-4	23° 4' 53.551"N	70° 8' 7.047"E	
5.	Coal Storage Area	AL-5	22° 59' 31.812"N	70° 13' 9.979"E	
6.	Tuna Port	AL-6	22° 59' 15.291"N	70° 58' 57.018"E	
7.	Signal Building	AL-7	22° 26' 26.750"N	69° 40' 22.127"E	DPA-Vadinar
8.	Admin Building	AL-8	22° 26' 25.223"N	69° 40' 19.358"E	

● Air Quality Monitoring Methodology

Air quality is measured in all the stations, for 24 hour for Total Suspended Particulate Matter (TSPM), PM₁₀, PM_{2.5}, SO₂, NO₂, NH₃ & Benzene and Grab-sampling for CO & CO₂ measurements. The Air samplers are operated for a period of 24 hours and after a continuous operation of 8 hours for gaseous parameters. The absorbing reagents for SO₂:- Absorbing Reagent TCM (Potassium Tetrachloromercurate 0.04M): Mercuric Chloride, Potassium Chloride and EDTA used. For NO₂:- Absorbing Reagent Sodium Hydroxide (NaOH): Sodium Hydroxide and Sodium Arsenite used. For NH₃ need Conc. Sulphuric Acid and Distilled water was used. By replacing 3 times the reagents per day for each parameter namely, SO₂, NO₂, NH₃. The GFA filter paper and PTFE Membrane bound filter paper are used for a period of 24 hours to obtain one sample each of TSPM, PM₁₀ & PM_{2.5}. The AAQ samples are collected two consecutive days a week as per CPCB guidelines, from all the eight locations as mentioned in the EMP.

2.2 Results

The ambient air quality monitoring data for six stations, viz. Marine Bhavan, Oil Jetty, Port Colony, Gopalpuri Hospital, Tuna Port and Nr. Coal Storage Area for the month of November 2022 are given in Tables 2 to 7. The ambient air quality monitoring data for two stations at Vadinar (Nr. Admin Building & Nr. Signal Building) are given in Tables 8 to 9.

The Movement of heavy transport with uncovered coal transportation, raw road around ambient location may be causes fugitive dust emission from dry conditions. Particulate Matter then enters the atmosphere through the action of wind, vehicular movement, or other activities. The dust produces tends to float in air and spread all around the vicinity. Direction and speed of wind affect the dispersion of the dust particulate matter. Humidity of air also has strong effect on the spreading of particulate matter. With increasing humidity, moisture particles eventually grow in size to a point where 'dry deposition' occurs, reducing PM₁₀ concentrations in the atmosphere.

Location 1: Marine Bhavan (AL1)

Table 2 : Results of Air Pollutant Concentration at Marine Bhavan

	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL1 – 1	01.11.2022	435	302	121	3.93	3.93	5.19	14.43	2.07	4.11
					6.04		23.66		6.33	
					1.81		14.43		3.91	
AL1 – 2	04.11.2022	344	228	106	3.32	2.52	17.31	12.70	2.42	3.72
					2.72		8.66		5.18	
					1.51		12.12		3.57	
AL1 – 3	08.11.2022	398	281	116	2.31	3.84	25.39	17.31	4.72	3.57
					6.34		17.89		2.42	
					2.88		8.66		3.57	
AL1 – 4	11.11.2022	445	315	124	3.63	6.35	17.89	13.08	4.03	3.61
					9.07		12.70		4.72	
					6.35		8.66		2.07	
AL1 – 5	15.11.2022	364	253	110	4.53	4.53	11.54	13.85	4.60	3.07
					6.35		19.62		2.88	
					2.72		10.39		1.73	
AL1 - 6	18.11.2022	442	315	121	8.46	4.84	23.08	16.54	3.22	4.37
					3.32		8.66		5.87	
					2.72		17.89		4.03	
AL1 - 7	22.11.2022	375	266	106	3.32	4.43	17.89	18.47	4.83	4.45
					7.55		25.97		5.87	
					2.42		11.54		2.65	
AL1 – 8	25.11.2022	483	350	129	4.53	4.63	23.66	21.55	3.22	3.68
					6.95		28.86		5.29	
					2.42		12.12		2.53	
AL1 – 9	29.11.2022	534	383	142	6.35	5.84	17.89	19.04	3.57	3.57
					8.46		25.97		4.95	
					2.72		13.27		2.19	
Monthly Average		424	299	119		4.55		16.33		3.79
Standard Deviation		61	48	12		1.12		3.03		0.44

Table 2 : Results of Air Pollutant Concentration at Marine Bhavan

	Date	C6H6 [µg/m ³]	HC	CO [mg/m ³]	CO ₂ [ppm]
Sampling Period		8 hr		Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m ³	ppm	4.0 mg/m ³	-
AL1 – 1	01.11.2022	1.09	BQL	1.44	444
AL1 – 2	04.11.2022	1.2	BQL	1.54	374
AL1 – 3	08.11.2022	1.17	BQL	1.08	538
AL1 – 4	11.11.2022	1.1	BQL	1.14	470
AL1 – 5	15.11.2022	1.11	BQL	1.26	481
AL1 - 6	18.11.2022	1.1	BQL	1.64	500
AL1 - 7	22.11.2022	1.12	BQL	1.35	620
AL1 - 8	25.11.2022	1.16	BQL	1.69	511
AL1 - 9	29.11.2022	1.21	BQL	1.16	522
Monthly Average		1.14	-	1.37	495.56
Standard Deviation		0.05	-	0.22	67.59

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

At Marine Bhavan, the overall values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ is attributed mainly by motor vehicle emission produced from various types of automobiles (both diesel and petrol driven). Moreover, the loading and unloading of Food Grains and Timber at Jetty no. 1 and 2 also contributes to the high levels of TSPM and PM₁₀. The mean TSPM value at Marine Bhavan was 424 µg/m³, the mean PM₁₀ value was 299 µg/m³, and PM_{2.5} value was 119 µg/m³ which is above the permissible limit prescribed by NAAQS. The average values of SO₂, NO₂ and NH₃ were 4.55 µg/m³, 16.33 µg/m³ & 3.79 µg/m³ respectively; these values were within the standard limit prescribed by NAAQS.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Marine Bhavan. The mean Benzene concentration was 1.14 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.37 mg/m³, well below the permissible limit of 4.0 mg/m³ prescribed by NAAQS.

Location 3: Oil Jetty (AL2)

Table 2 : Results of Air Pollutant Concentration at Oil Jetty

Table 2 : Results of Air Pollutant Concentration at Oil Jetty										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL2 -1	01.11.2022	150	99	50	2.42	3.22	6.35	13.66	2.88	4.53
					4.53		13.27		6.79	
					2.72		21.35		3.91	
AL2 -2	04.11.2022	253	180	70	2.72	3.53	5.77	11.73	0.81	3.18
					3.32		17.89		4.03	
					4.53		11.54		4.72	
AL2 -3	08.11.2022	235	166	67	2.59	2.50	5.19	14.04	2.19	2.80
					3.46		13.27		2.65	
					1.44		23.66		3.57	
AL2 -4	11.11.2022	275	194	76	6.35	4.53	10.39	14.24	2.42	2.42
					4.53		20.20		3.80	
					2.72		12.12		1.04	
AL2 – 5	15.11.2022	245	169	71	3.02	4.53	8.66	14.04	3.57	2.38
					6.65		16.16		2.30	
					3.93		17.31		1.27	
AL2 – 6	18.11.2022	185	119	53	5.74	4.94	14.43	13.47	4.95	3.84
					2.72		17.31		3.57	
					6.35		8.66		2.99	
AL2 – 7	22.11.2022	373	252	109	3.02	4.03	20.20	14.24	3.80	3.80
					6.35		12.12		5.53	
					2.72		10.39		2.07	
AL2 -8	25.11.2022	292	199	86	1.81	3.83	14.43	14.43	3.57	4.76
					6.35		19.62		4.72	
					3.32		9.23		5.99	
AL1 – 9	29.11.2022	299	194	97	3.63	4.63	5.19	13.47	2.88	3.49
					7.55		23.66		4.95	
					2.72		11.54		2.65	
Monthly Average		256	175	75		3.97		13.70		3.47
Standard Deviation		65	45	19		0.79		0.81		0.85

Table 3 : Results of Air Pollutant Concentration at Oil Jetty					
	Date	C₆H₆ [µg/m³]	*NMHC	CO [mg/m³]	CO₂ [ppm]
Sampling Period		8 hr		Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m³		4.0 mg/m³	-
AL2-1	01.11.2022	1.17	BQL	1.22	467
AL2-2	04.11.2022	1.01	BQL	1.53	451
AL2-3	08.11.2022	1.1	BQL	1.65	502
AL2-4	11.11.2022	1.19	BQL	1.04	447
AL2 -5	15.11.2022	1.24	BQL	1.27	634
AL2 -6	18.11.2022	1.16	BQL	1.22	531
AL2-7	22.11.2022	1.2	BQL	1.28	800
AL2-8	25.11.2022	1.06	BQL	1.89	1023
AL2-9	29.11.2022	1.22	BQL	1.46	576
Monthly Average		1.15	-	1.40	603.44
Standard Deviation		0.08	-	0.26	193.07

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

Oil Jetty Area, the overall values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ was mainly by motor vehicle emission produced from various types of vehicles at Oil Jetty Area. The mean TSPM value at Oil Jetty was 256 µg/m³. The mean PM₁₀ value was 175 µg/m³ and mean PM_{2.5} value was 75 µg/m³ which was above the permissible limit. The average values of SO₂, NO₂ and NH₃ were within the permissible limit prescribed by NAAQS. The mean concentration of SO₂, NO₂ and NH₃ were 3.97 µg/m³, 13.70 µg/m³ and 3.47 µg/m³ respectively.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Oil Jetty. The mean Benzene concentration was 1.15 µg/m³ which was well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.40 mg/m³, well below the permissible limit of 4.0 mg/m³.

Location 3: Kandla Colony – Estate Office (AL-3)

Table 4 : Results of Air Pollutant Concentration at Estate Office

Table 4 : Results of Air Pollutant Concentration at Estate Office										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL3 – 1	01.11.2022	245	172	69	1.51	2.32	10.39	9.62	3.68	5.10
					3.32		13.27		7.02	
					2.12		5.19		4.60	
AL3 – 2	04.11.2022	577	445	130	4.53	2.32	5.19	10.39	3.57	2.49
					1.51		17.31		2.88	
					0.91		8.66		1.04	
AL3 – 3	08.11.2022	440	321	109	6.05	3.94	19.04	12.31	4.72	3.64
					2.59		12.12		2.42	
					3.17		5.77		3.80	
AL3 – 4	11.11.2022	518	403	111	3.32	4.23	18.47	10.58	1.38	2.42
					2.72		8.66		3.57	
					6.65		4.62		2.30	
AL3 – 5	15.11.2022	451	340	107	1.81	3.73	23.08	15.97	3.22	2.42
					6.04		14.43		2.30	
					3.32		10.39		1.73	
AL3 – 6	18.11.2022	459	346	112	4.53	4.43	16.16	15.97	5.76	4.14
					2.72		8.66		4.72	
					6.04		23.08		1.96	
AL3 – 7	22.11.2022	453	325	116	2.42	4.33	19.62	17.31	3.91	3.84
					4.23		23.66		5.18	
					6.35		8.66		2.42	
AL3 – 8	25.11.2022	337	252	83	6.04	3.93	15.00	15.58	3.80	3.91
					3.32		23.08		5.76	
					2.42		8.66		2.19	
AL1 – 9	29.11.2022	491	359	129	4.84	4.63	17.89	16.16	3.57	3.57
					6.95		24.24		5.18	
					2.12		6.35		1.96	
Monthly Average		441	329	107		3.76		13.77		3.50
Standard Deviation		98	80	20		0.87		3.00		0.91

Table 4 : Results of Air Pollutant Concentration at Estate Office

Sampling Period	Date	C ₆ H ₆ [µg/m ³]	*NMHC	CO [mg/m ³]	CO ₂ [ppm]
		8 hr		Grab Sampling	Grab Sampling
		5.0 µg/m ³		4.0 mg/m ³	-
NAAQMS limit					
AL3 -1	01.11.2022	1.06	BQL	1.27	508
AL3 -2	04.11.2022	1.1	BQL	1.19	508
AL3 -3	08.11.2022	1.1	BQL	1.65	502
AL3 -4	11.11.2022	1.09	BQL	1.83	429
AL3 - 5	15.11.2022	1.09	BQL	1.76	813
AL3 - 6	18.11.2022	1.2	BQL	1.14	559
AL3 - 7	22.11.2022	1.19	BQL	2.18	1022
AL3 - 8	25.11.2022	1.11	BQL	2	1026
	29.11.2022	1.06	BQL	1.22	537
Monthly Average		1.11	-	1.58	656.00
Standard Deviation		0.05	-	0.39	234.02

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

The overall values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ at Kandla Port Colony (Estate Office) was attributed by vehicle emission produced from trucks and heavy duty vehicles that pass through the road outside Kandla Port Colony. The mean TSPM values at Estate Office were 441 µg/m³, the mean PM₁₀ value was 329 µg/m³, and PM_{2.5} value was 107 µg/m³ which was above the permissible limit prescribed by NAAQS. The average values of SO₂, NO₂ and NH₃ were 3.76 µg/m³, 13.77 µg/m³ and 3.50 µg/m³ respectively and were all within the permissible limit.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Kandla Port Colony. The mean Benzene concentration was 1.11 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide was 1.58 mg/m³, well below the permissible limit of 4.0 mg/m³.

Location 4: Gopalpuri Hospital (AL-4)

Table 5 : Results of Air Pollutant Concentration at Gopalpuri Hospital

Table 5 : Results of Air Pollutant Concentration at Gopalpuri Hospital										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL4 -1	01.11.2022	107	67	34	1.21	2.22	5.77	6.93	2.42	2.53
					3.02		10.39		4.14	
					2.42		4.62		1.04	
AL4 -2	04.11.2022	177	117	54	0.91	2.22	5.19	10.00	1.61	2.49
					4.53		8.66		2.42	
					1.21		16.16		3.45	
AL4 -3	08.11.2022	148	101	44	1.15	2.21	6.93	9.81	1.73	1.69
					2.88		17.31		2.42	
					2.59		5.19		0.92	
AL4 -4	11.11.2022	184	111	68	1.51	2.62	6.93	12.89	1.04	2.30
					3.63		14.43		2.42	
					2.72		17.31		3.45	
AL4 – 5	15.11.2022	202	125	72	2.12	2.42	12.12	12.70	2.42	2.49
					3.63		8.66		3.45	
					1.51		17.31		1.61	
AL4 – 6	18.11.2022	233	153	78	1.21	2.92	8.66	12.89	2.42	2.49
					4.84		17.89		1.61	
					2.72		12.12		3.45	
AL4 – 7	22.11.2022	268	168	94	0.60	2.22	5.77	12.70	1.73	2.88
					3.32		14.43		3.68	
					2.72		17.89		3.22	
AL4 – 8	25.11.2022	202	142	56	2.12	3.42	14.43	12.50	2.07	2.99
					5.14		17.89		4.03	
					3.02		5.19		2.88	
AL1 – 9	29.11.2022	249	157	91	3.02	4.03	8.66	11.54	1.38	2.49
					6.35		20.20		3.80	
					2.72		5.77		2.30	
Monthly Average		197	127	66		2.70		11.33		2.49
Standard Deviation		50	32	20		0.65		2.05		0.37

Table 5 : Results of Air Pollutant Concentration at Gopalpuri Hospital					
Sampling Period	Date	C₆H₆ [µg/m³]	*NMHC	CO [mg/m³]	CO₂ [ppm]
		8 hr		Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m³		4.0 mg/m³	-
AL4 -1	01.11.2022	1.14	BQL	1.26	503
AL4 -2	04.11.2022	1.15	BQL	1.26	450
AL4 -3	08.11.2022	1.03	BQL	1.73	506
AL4 -4	11.11.2022	1.02	BQL	1.82	462
AL4 – 5	15.11.2022	1.09	BQL	1.04	1048
AL4 – 6	18.11.2022	1.14	BQL	1.32	543
AL4 – 7	22.11.2022	1.16	BQL	1.83	758
AL4 – 8	25.11.2022	1.22	BQL	1.8	816
AL4 – 9	29.11.2022	1.16	BQL	1.36	665
Monthly Average		1.12	-	1.49	639.00
Standard Deviation		0.07	-	0.30	201.83

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

The overall values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ at Gopalpuri Hospital was attributed by vehicle emission produced from light motor vehicles of the colony residents. The mean TSPM values at Gopalpuri Hospital were 197 µg/m³, the mean PM₁₀ value was 127 µg/m³ and PM_{2.5} was 66 µg/m³ which was exceed the standard limit. The average values of SO₂, NO₂ and NH₃ were 2.70 µg/m³, 11.33 µg/m³ and 2.49 µg/m³ respectively and were all within the permissible limit.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Gopalpuri Hospital. The mean Benzene concentration was 1.12 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon monoxide concentration was 1.49 mg/m³ which is well below the permissible limit of 4.0 mg/m³.

Location 5: Coal Storage Area (AL-5)

Table 6 : Results of Air Pollutant Concentration at Coal Storage Area

Table 6 : Results of Air Pollutant Concentration at Coal Storage Area										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL6 – 1	01.11.2022	779	598	175	2.72	4.33	6.35	16.54	3.68	5.06
					6.65		25.97		8.17	
					3.63		17.31		3.34	
AL6 – 2	04.11.2022	635	492	137	2.12	3.53	23.08	17.70	6.79	6.60
					5.44		12.12		8.17	
					3.02		17.89		4.83	
AL6 – 3	08.11.2022	538	412	125	8.94	5.00	23.66	21.74	2.53	3.88
					3.46		12.12		2.07	
					2.59		29.43		7.02	
AL6 – 4	11.11.2022	815	635	178	4.53	4.73	18.47	17.70	5.87	4.41
					2.72		8.66		2.65	
					6.95		25.97		4.72	
AL6 – 5	15.11.2022	792	614	176	6.35	6.65	18.47	13.66	4.72	3.88
					9.07		10.39		3.68	
					4.53		12.12		3.22	
AL6 – 6	18.11.2022	771	595	171	9.37	7.15	20.20	17.12	4.83	4.37
					5.74		8.08		2.53	
					6.35		23.08		5.76	
AL6 – 7	22.11.2022	706	543	156	4.84	4.53	10.39	18.47	4.83	5.03
					6.04		23.66		5.99	
					2.72		21.35		4.26	
AL6 – 8	25.11.2022	846	654	187	3.32	5.24	17.31	19.81	3.91	4.95
					7.86		25.97		6.91	
					4.53		16.16		4.03	
AL1 – 9	29.11.2022	801	621	172	5.14	5.64	16.16	18.28	3.57	4.30
					9.07		28.86		6.22	
					2.72		9.81		3.11	
Monthly Average		743	574	164		5.20		17.89		4.72
Standard Deviation		99	78	21		1.14		2.22		0.84

Table 6 : Results of Air Pollutant Concentration at Coal Storage Area

Sampling Period	Date	C ₆ H ₆ [µg/m ³]	*NMHC	CO [mg/m ³]	CO ₂ [ppm]
		8 hr		Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m ³		4.0 mg/m ³	-
AL5 – 1	01.11.2022	1.1	BQL	1.12	483
AL5 – 2	04.11.2022	1.06	BQL	1.48	475
AL5 – 3	08.11.2022	1.08	BQL	1.66	421
AL5 – 4	11.11.2022	1.06	BQL	1.69	492
AL5 – 5	15.11.2022	1.06	BQL	1.06	702
AL5 – 6	18.11.2022	1.22	BQL	1.18	483
AL5 – 7	22.11.2022	1.11	BQL	1.86	564
AL5 – 8	25.11.2022	1.2	BQL	1.54	777
AL5 – 9	29.11.2022	1.22	BQL	1.89	895
Monthly Average		1.12	-	1.50	588.00
Standard Deviation		0.07	-	0.31	164.11

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

The overall values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ and NH₃ at Coal Storage Area was comparatively highest among all the locations of Air Quality monitoring in Kandla Port. High values of TSPM, PM₁₀, PM_{2.5}, SO₂, NO₂ at this location was due to lifting of coal with grab and other coal handling processes near Berth no. 6 & 7. Moreover, the traffic was also heavy around this place for transport of coal thus emissions produced from heavy vehicles. The mean TSPM values at Coal storage were 743 µg/m³, the mean PM₁₀ value was 574 µg/m³, and the PM_{2.5} value was 164 µg/m³ which was above the permissible limit prescribed by NAAQS. The average values of SO₂, NO₂ and NH₃ were 5.20 µg/m³, 17.89 µg/m³ and 4.72 µg/m³ respectively and were all within the permissible limit.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Coal Storage Area. The mean Benzene concentration was 1.12 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.50 mg/m³, well below the permissible limit of 4.0 mg/m³.

Location 6: Tuna Port (AL-6)

Table 7 : Results of Air Pollutant Concentration at Tuna Port

Table 7 : Results of Air Pollutant Concentration at Tuna Port										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL5 -1	01.11.2022	141	88	47	0.91	1.61	2.89	6.16	2.07	2.84
					2.72		12.12		4.03	
					1.21		3.46		2.42	
AL5 – 2	04.11.2022	232	166	64	1.51	2.22	6.35	7.89	1.38	2.76
					3.02		5.19		4.49	
					2.12		12.12		2.42	
AL5 – 3	08.11.2022	184	120	55	1.44	2.40	10.39	13.08	1.73	2.61
					3.46		11.54		2.65	
					2.31		17.31		3.45	
AL5 – 4	11.11.2022	233	153	78	2.12	2.32	11.54	11.54	1.27	1.57
					3.93		17.89		1.04	
					0.91		5.19		2.42	
AL5 – 5	15.11.2022	221	145	74	1.21	2.32	6.35	12.12	3.57	2.49
					3.32		12.12		2.30	
					2.42		17.89		1.61	
AL5 – 6	18.11.2022	248	162	83	1.81	2.01	17.31	17.12	2.30	10.21
					1.21		23.66		15.57	
					3.02		10.39		12.76	
AL5 – 7	22.11.2022	214	139	74	1.51	2.52	8.66	8.46	3.57	2.84
					2.72		12.70		2.88	
					3.32		4.04		2.07	
AL5 – 8	25.11.2022	255	175	77	2.72	3.02	8.66	8.08	3.45	3.30
					4.84		11.54		4.72	
					1.51		4.04		1.73	
AL1 – 9	29.11.2022	245	155	87	1.51	3.63	12.70	11.73	1.04	2.88
					6.04		17.31		5.18	
					3.32		5.19		2.42	
Monthly Average		219	145	71		2.45		10.69		3.50
Standard Deviation		36	27	13		0.58		3.37		2.56

Table 7 : Results of Air Pollutant Concentration at Tuna Port

		C₆H₆ [µg/m³]		CO [mg/m³]	CO₂ [ppm]
Sampling Period	Date	8 hr	*NMHC	Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m³		4.0 mg/m³	-
AL6 -1	01.11.2022	1.12	BQL	1.43	543
AL6 – 2	04.11.2022	1.17	BQL	1.41	463
AL6 – 3	08.11.2022	1.13	BQL	1.39	410
AL6 – 4	11.11.2022	1.13	BQL	1.74	509
AL6 – 5	15.11.2022	1.17	BQL	1.08	911
AL6 – 6	18.11.2022	1.17	BQL	1.1	528
AL6 – 7	22.11.2022	1.06	BQL	1.88	565
AL6 – 8	25.11.2022	1.1	BQL	1.89	999
	29.11.2022	1.22	BQL	1.89	895
Monthly Average		1.14	-	1.53	647.00
Standard Deviation		0.05	-	0.33	222.45

* NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

The mean TSPM values at Tuna Port was 219 µg/m³, the mean PM₁₀ value was 145 µg/m³ and the mean PM_{2.5} value was 71 µg/m³ which was exceed the standard limit prescribed by NAAQS. The average values of SO₂, NO₂ and NH₃ were 2.45 µg/m³, 10.69 µg/m³ and 3.50 µg/m³ respectively and were all within the standard limit prescribed by NAAQS.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Tuna Port. The mean Benzene concentration was 1.14 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.53 mg/m³, well below the permissible limit of 4.0 mg/m³.

Location 7: Admin Building (Vadinar) (AL-7)

Table 8 : Results of Air Pollutant Concentration at Admin Building										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL7 -1	01.11.2022	150	98	51	2.20	3.52	9.53	10.59	5.36	5.28
					4.84		16.51		2.81	
					3.52		5.72		7.66	
AL7 -2	04.11.2022	177	115	61	3.08	4.69	17.78	21.81	2.81	6.13
					7.03		21.60		8.93	
					3.96		26.04		6.64	
AL7 -3	08.11.2022	193	113	73	6.15	6.30	6.99	11.43	3.83	7.49
					8.79		20.96		10.47	
					3.96		6.35		8.17	
AL7 -4	11.11.2022	200	121	78	3.96	6.01	17.78	15.24	10.47	6.81
					5.28		22.23		5.87	
					8.79		5.72		4.08	
AL7 -5	15.11.2022	179	108	69	1.76	5.28	7.62	18.00	3.06	5.62
					5.71		26.04		5.87	
					8.35		20.33		7.91	
AL7 -6	18.11.2022	223	121	96	2.64	4.54	8.89	15.03	5.62	5.70
					4.40		16.51		8.17	
					6.59		19.69		3.32	
AL1 -7	22.11.2022	162	104	57	4.84	5.28	14.61	14.61	13.02	9.10
					7.03		5.72		8.68	
					3.96		23.50		5.62	
AL1-8	25.11.2022	237	138	97	6.59	4.40	9.53	15.24	7.91	8.00
					3.96		14.61		5.62	
					2.64		21.60		10.47	
AL1-9	28.11.2022	203	112	87	3.96	3.66	6.99	13.76	5.62	6.04
					2.20		14.61		7.91	
					4.84		19.69		4.60	
Monthly Average		191	114	74		4.85		15.08		6.68
Standard Deviation		28	12	17		0.96		3.34		1.28

Table 8 : Results of Air Pollutant Concentration at Admin Building Vadinar

Sampling Period	Date	C ₆ H ₆ [µg/m ³]	*NMHC	CO [mg/m ³]	CO ₂ [ppm]
		8 hr		Grab Sampling	Grab Sampling
		5.0 µg/m ³		4.0 mg/m ³	-
AL7 -1	01.11.2022	1.08	BQL	1.43	225
AL7 -2	04.11.2022	1.13	BQL	1.54	236
AL7 -3	08.11.2022	1.17	1.81	1.53	455
AL7 -4	11.10.2022	1.14	BQL	1.61	443
AL7 -5	15.10.2022	1.03	BQL	1.1	347
AL7 -6	18.10.2022	1.06	BQL	1.57	416
AL7 -7	22.10.2022	1.10	BQL	1.05	372
AL7 -8	25.10.2022	1.20	BQL	1.79	464
AL7 -9	28.10.2022	1.13	BQL	1.42	487
Monthly Average		1.12	-	1.46	388
Standard Deviation		0.06	-	0.25	75

*NMHC- Non- Methane Hydrocarbons

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

At Admin Building, Vadinar the mean TSPM value was 191 µg/m³, the mean PM₁₀ value was 114 µg/m³ and the mean PM_{2.5} value was 74 µg/m³ which was slightly exceed the standard limit. The average values of SO₂, NO₂ and NH₃ concentrations were 4.85 µg/m³, 15.08 µg/m³ and 6.68 µg/m³ respectively and were all within the permissible limit.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Vadinar Port. The mean Benzene concentration was 1.12 µg/m³, well below the permissible limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.46 mg/m³, well below the permissible limit of 4.0 mg/m³.

Location 8: Signal Building (Vadinar) (AL-8)

Table 9 : Results of Air Pollutant Concentration at Signal Building, Vadinar										
	Date	TSPM [µg/m3]	PM10 [µg/m3]	PM2.5 [µg/m3]	SO2 [µg/m3]		NOx [µg/m3]		NH3 [µg/m3]	
Sampling Period		24hr	24hr	24hr	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)	8 hr	24hr (Avg.)
NAAQMS Limit			100 µg/m3	60 µg/m3		80 µg/m3		80 µg/m3		400 µg/m3
AL8 -1	01.11.2022	113	74	38	3.96	4.40	6.99	13.34	2.30	7.15
					6.59		19.05		8.68	
					2.64		13.97		10.47	
AL8 -2	04.11.2022	146	93	49	2.64	4.40	14.61	15.88	5.36	6.13
					4.84		22.23		8.42	
					5.71		10.80		4.60	
AL8 -3	08.11.2022	124	82	42	3.08	3.52	14.61	16.73	5.62	5.62
					5.28		26.04		7.91	
					2.20		9.53		3.32	
AL8 -4	11.11.2022	175	105	67	2.20	4.40	8.26	13.76	8.93	9.02
					7.03		19.05		12.76	
					3.96		13.97		5.36	
AL8 -5	15.11.2022	152	97	52	3.52	4.98	5.72	13.13	6.89	7.57
					4.84		13.34		10.98	
					6.59		20.33		4.85	
AL8 -6	18.11.2022	176	111	61	3.08	3.81	15.24	17.57	7.15	8.42
					3.96		26.04		7.91	
					4.40		11.43		10.21	
AL8 -7	22.11.2022	214	118	93	3.52	5.71	5.72	12.91	7.91	8.25
					5.28		13.34		6.38	
					8.35		19.69		10.47	
AL8-8	25.11.2022	219	125	92	3.08	4.54	9.53	11.01	5.36	6.04
					4.84		17.78		8.17	
					5.71		5.72		4.60	
AL8-9	28.11.2022	154	97	57	5.71	3.81	10.80	16.94	7.15	8.76
					3.96		22.23		8.93	
					1.76		17.78		10.21	
Monthly Average		164	100	61		4.40		14.59		7.44
Standard Deviation		36	16	20		0.67		2.25		1.27

Table 9 : Results of Air Pollutant Concentration at Signal Building Vadinar

		C₆H₆ [µg/m³]		CO [mg/m³]	CO₂ [ppm]
Sampling Period	Date	8 hr	*NMHC	Grab Sampling	Grab Sampling
NAAQMS limit		5.0 µg/m³		4.0 mg/m³	-
AL8 -1	01.11.2022	1.06	BQL	1.5	467
AL8 -2	04.11.2022	1.05	BQL	1.46	501
AL8 -3	08.11.2022	1.14	1.81	1.31	489
AL8 -4	11.11.2022	1.16	BQL	1.38	439
AL8 -5	15.11.2022	1.17	BQL	1.29	231
AL8 -6	18.11.2022	1.10	BQL	1.31	244
AL8 -7	22.11.2022	1.00	BQL	1.34	227
AL8 -8	25.11.2022	1.05	BQL	1.37	261
AL8 -9	28.11.2022	1.02	BQL	1.29	234
Monthly Average		1.16	-	1.46	442
Standard Deviation		0.05	-	0.27	63

* NMHC- Non- Methane Hydrocarbon

BQL- Below Quantification Limit (Quantification Limit – NMHC: 0.5 ppm)

At Signal Building, Vadinar the mean TSPM value was 164 µg/m³, the mean PM₁₀ value was 100 µg/m³ which was boundary line of the permissible limit, the mean PM_{2.5} value was 61 µg/m³ which was within the permissible limit. The average values of SO₂, NO₂ and NH₃ concentrations were 4.40 µg/m³, 14.59 µg/m³ and 7.44 µg/m³ respectively and were all within the standard limit.

The levels of Benzene, Hydrocarbons (HC) and CO were within the permissible limit at Vadinar Port. The mean Benzene concentration was 1.16 µg/m³, well below the standard limit of 5.0 µg/m³. NMHC's were below the detectable limit and Carbon Monoxide concentration was 1.46 mg/m³, well below the standard limit of 4.0 mg/m³.

Fig. No:-1 Average ambient air quality (PM) month of November-2022 at DPA and Vadinar Sampling Station

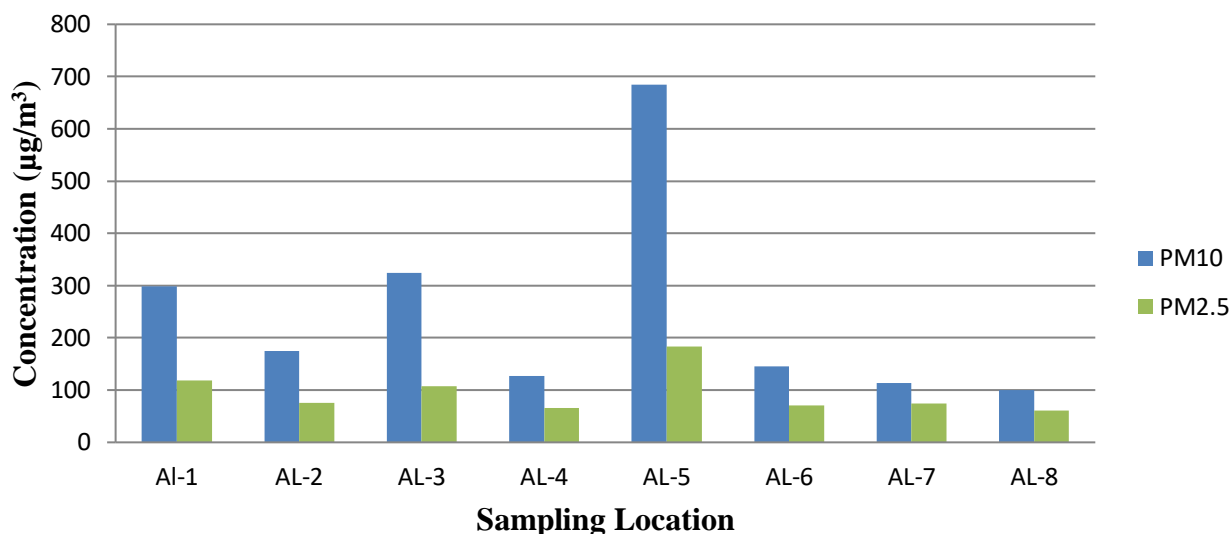


Fig. No:-2. Average ambient air quality (Gaseous) month of November-2022 at DPA and Vadinar sampling location

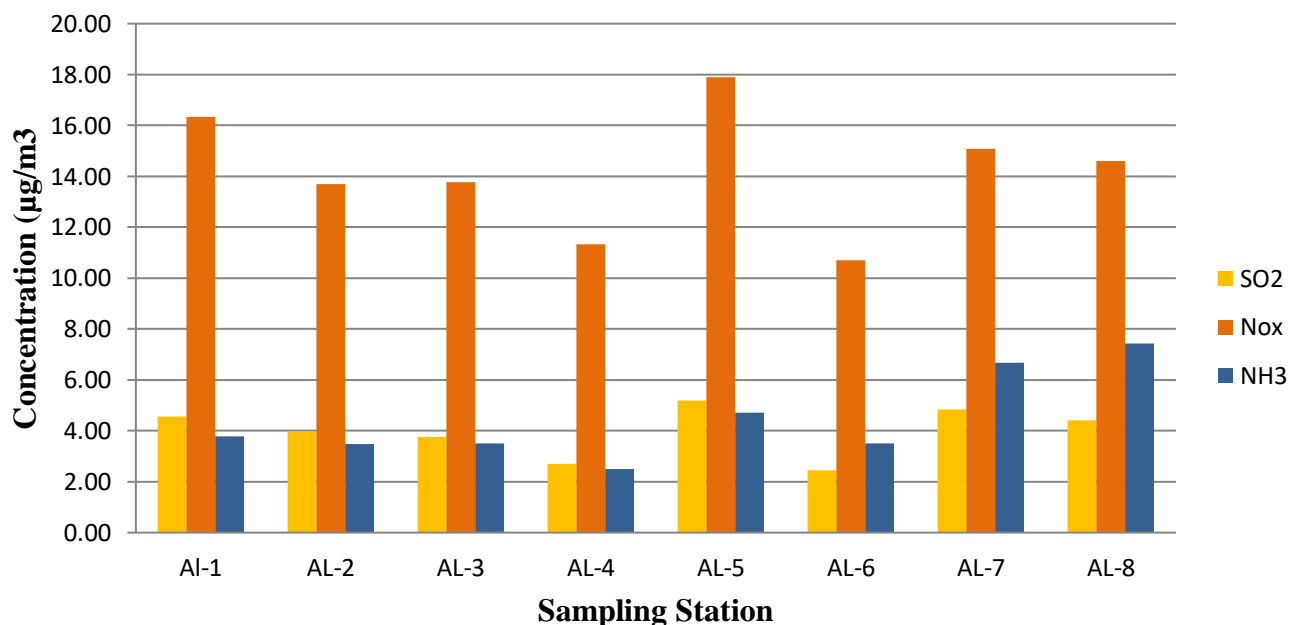


Fig. No:-3. Average ambient air quality (Gaseous) month of November-2022 at DPA and Vadinar sampling location

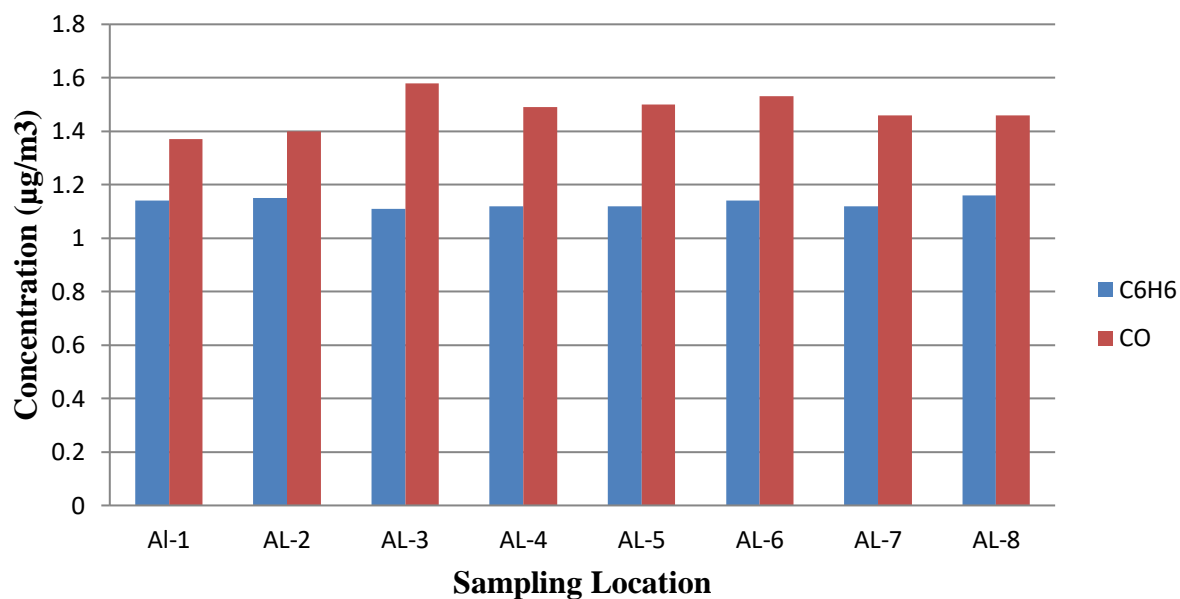
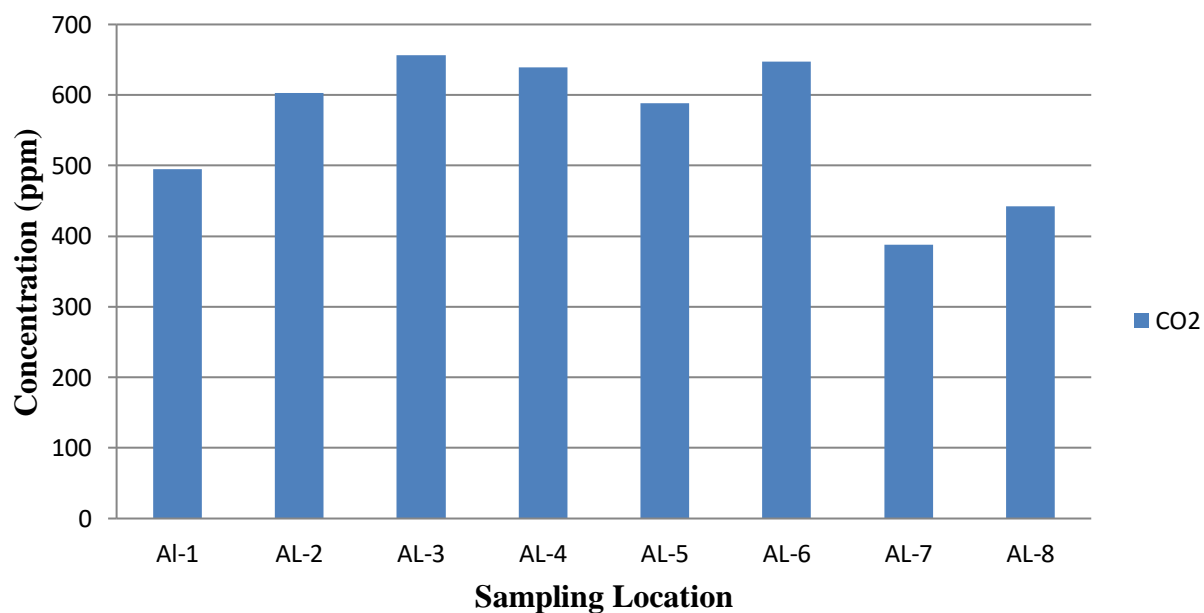


Fig. No:-4. Average ambient air quality (Gaseous) month of November-2022 at DPA and Vadinar sampling location



2.3 Observations and Conclusion

During the monitoring period, the overall Ambient Air Quality of the port area was found within permissible levels for various gaseous pollutants. However, Total Suspended Particulate matter as TSPM, Particulate matter as PM₁₀ and PM_{2.5} was found to exceed the limits at locations at all ambient air sampling location.

The concentration of PM₁₀ and PM_{2.5} were slightly exceeded at Gopalpuri and Tuna Port.

The mean concentration of PM₁₀ and PM_{2.5} were slightly exceeded at Admin building Vadinar & at Signal building Vadinar was very close to the standard limit.

CHAPTER-3

METEOROLOGICAL OBSERVATIONS

4.1 Meteorological Data

Automatic Weather station (ID KAZPHOEN424) have been installed in Seva Sadan-3 at the Deendayal Port which records the data on Temperature (°C), Relative Humidity (%), Wind speed (m/s), Wind Direction (°), Solar radiation (w/m²) and Rainfall mm.

Meteorological factors play an important role in environmental pollution studies particularly in pollutant transport irrespective of their entry into the environment. The wind speed and direction play a major role in dispersion of environment pollutants. Effects of pollution on receptors animate and inanimate depends on atmospheric condition.

Temperature

At Deendayal Port, the day time temperature was found range 21.1-32.9⁰C. The average day time temperature was 27.92°C. The night time temperature was range from 20.0-29.7⁰C. The mean night time temperature recorded was 25.47 °C.

Solar Radiation

The mean Solar Radiation in November month was 167.27 w/m². The maximum solar radiation was recorded 759.0 w/m² in 4th November, 2022 and the minimum solar radiation was recorded 1.80 w/m² in 30th November, 2022.

Rainfall

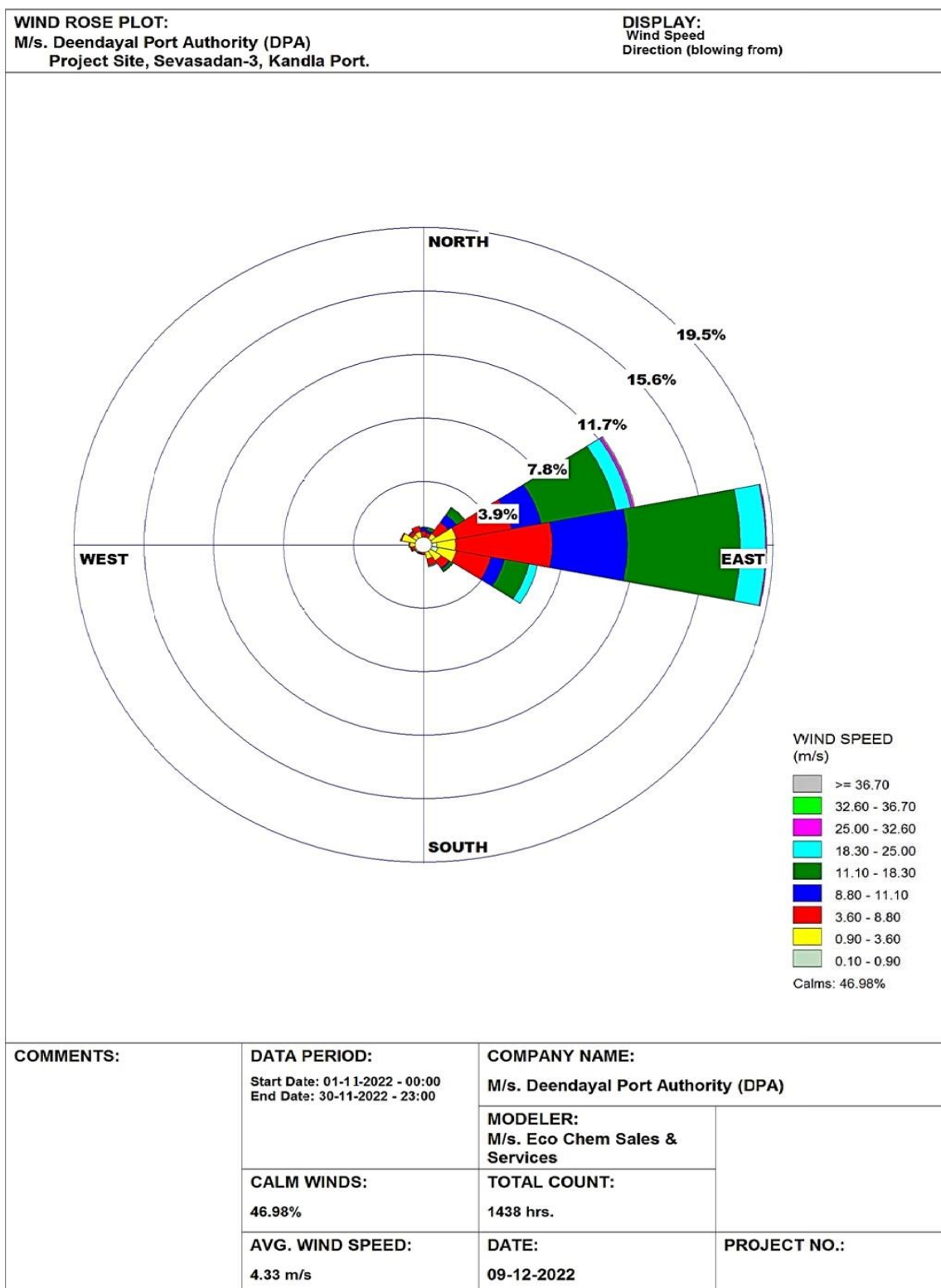
Rain fall of November month was recorded 0.00 mm.

Relative Humidity

The mean Relative humidity was 69.00 % for the month of November. Maximum Relative humidity was recorded 99.0 % and minimum Relative humidity was recorded 34.0 %.

Wind Velocity and Wind Direction

Velocity and direction of wind have a significant role in the dispersion of air borne materials and therefore determines the air quality of the area. The average wind velocity for the entire month of November was 1.21 m/s. Maximum wind velocity was recorded 10.19 m/s. The wind direction was mostly North-East.



WRPLOT View - Lakes Environmental Software

CHAPTER-4

DRINKING WATER QUALITY MONITORING

4.0 Drinking Water Quality Monitoring

Drinking Water Quality Monitoring was carried out at twenty stations at Kandla, Vadinar & Township Area of Deendayal Port.

Table No:-10. Drinking Water Sampling Location

Sr. No.	Name of Location	Location Code	Latitude	Longitude
1.	Nirman Building	DL-1	23° 0' 27"N	70° 13' 21"E
2.	P & C Building	DL-2	23° 0' 33"N	70° 13' 20"E
3.	North Gate	DL-3	23° 0' 26.97"N	70° 13' 21.87"E
4.	KPT-Canteen	DL-4	23° 2' 17.2674"N	70° 13' 18.2814"E
5.	West Gate	DL-5	23° 59' 40.48"N	70° 12' 50.96"E
6.	Wharf Area	DL-6	22° 59' 52.2"N	70° 13' 22.95"E
7.	Sevasadan-3	DL-7	23° 0' 22.55"N	70° 13' 15.34"E
8.	Workshop	DL-8	23° 0' 33.74"N	70° 13' 20.05"E
9.	Custom Building	DL-9	23° 1' 8.70"N	70° 12' 52.0"E
10.	Kandla Colony	DL-10	23° 11' 14.9"N	70° 12' 48.4"E
11.	KPT Hospital	DL-11	23° 1' 5.02"N	70° 12' 44.38"E
12.	A.O. Building	DL-12	23° 3' 42.89"N	70° 8' 41.5"E
13.	Gopalpuri School	DL-13	23° 5' 1.03"N	70° 7' 55.42"E
14.	Gopalpuri Guest House	DL-14	23° 4' 43.14"N	70° 7' 51.92"E
15.	E-Type Quarters	DL-15	23° 4' 59.90"N	70° 7' 56.72"E
16.	F-Type Quarters	DL-16	23° 4' 38.45"N	70° 8' 8.63"E
17.	Gopalpuri Hospital	DL-17	23° 4' 54.09"N	70° 8' 7.5"E
18.	Tuna Port	DL-18	23° 58' 23.06"N	70° 5' 35.6"E
19.	Vadinar Jetty	DL-19	22° 25' 51.73"N	69° 41' 36.62"E
20.	Vadinar Colony	DL-20	22° 30' 26.25"N	69° 39' 45.03"E

4.1 Drinking Water Monitoring Methodology

Samples for physico-chemical analysis were collected in 2 Carboys and samples for microbiological parameters were collected in sterilized bottles. These samples were then analyzed in laboratory for various drinking water parameters at Kandla Lab/Surat.

The Sampling was done as per IS: 3025 Part-1, analysis was done as per IS: 3025/APHA standard methods and, the analysis results compare with IS 10500:2012. The water samples were analyzed for various parameters, viz. Color , Odor, Turbidity , Conductivity , pH , Chlorides , TDS, Total Hardness, Iron , Sulphate, Salinity , DO, BOD, Na, K, Ca, Mg, F, NO₃, NO₂, Mn, Cr-6, Cu, Cd, As, Hg, Pb, Zn, Bacterial Count (CFU) .

4.2 Results

The Drinking Water Quality monitoring data for 20 stations are given in below from table No. 11 to Table No. 17

Table 11: Drinking Water Quality Monitoring Parameters for Nirman Building, P & C Building and Main Gate (North) at Kandla.

Sr. No.	Parameter	Unit	Nirman Building 1	P & C Building	Main Gate North	Acceptable Limits as per IS 10500 :2012 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.35	7.33	7.41	7.35	6.5 to 8.5
2	Total Dissolved Solids	mg/l	690	670	670	690	2000
3	Turbidity	NTU	0	1	1	0	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1229	1194	1211	NS*	NS*
7	Biochemical Oxygen	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	576.28	355.79	340.76	250	1000
9	Ca as Ca	mg/l	43.29	41.68	39.28	75	200
10	Mg as Mg	mg/l	58.8060	57.3480	56.3760	30	100
11	Total Hardness	mg/l	350	340	330	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.35	0.37	0.31	1	1.5
14	Sulphate as SO ₄	mg/l	35.80	30.20	28.30	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	12.70	16.70	15.50	45	No Relaxation
17	Salinity	‰	1.04	0.64	0.62	NS*	NS*
18	Sodium as Na	mg/l	204.00	180.00	192.00	NS*	NS*
19	Potassium as K	mg/l	3.22	3.15	3.18	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/10 0ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified

BQL- Below Quantification Limit, (BOD-2.0 mg/l, Fe- 0.009 mg/l, Mn- 0.01 mg/l, Cr⁺⁶- 0.03 mg/l, Cu- 0.004 mg/l, Cd- 0.003 mg/l, As- 0.003mg/l, Hg- 0.001 mg/l, Pb- 0.006mg/l, Zinc- 0.021 mg/l).

Table 12: Drinking Water Quality Monitoring Parameters for Canteen, West Gate – I & Wharf Area at Kandla

Sr. No.	Parameter	Unit	Canteen	West Gate – I	Wharf Area	Acceptable Limits as per IS 10500 :	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.48	7.52	7.36	7.48	6.5 to 8.5
2	Total Dissolved Solids	mg/l	640	650	680	640	2000
3	Turbidity	NTU	0	1	0	0	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1166	1152	1196	NS*	NS*
7	Biochemical Oxygen Demand	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	335.75	360.80	350.78	250	1000
9	Ca as Ca	mg/l	40.88	38.48	40.08	75	200
10	Mg as Mg	mg/l	62.6940	66.5820	53.4600	30	100
11	Total Hardness	mg/l	360	370	320	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.32	0.30	0.35	1	1.5
14	Sulphate as SO ₄	mg/l	31.20	28.30	26.00	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	6.60	11.40	5.80	45	No Relaxation
17	Salinity	‰	0.61	0.65	0.63	NS*	NS*
18	Sodium as Na	mg/l	202.00	200.00	-	NS*	NS*
19	Potassium as K	mg/l	3.38	3.48	3.16	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/100ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified,

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

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Table 13: Drinking Water Quality Monitoring Parameters for Sewa sadan-3, Workshop I and Custom Building at Kandla

Sr. No.	Parameter	Unit	Sewa Sadan – 3	Workshop	Custom Building	Acceptable Limits as per IS 10500 : 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.45	7.38	7.29	6.5 to 8.5	6.5 to 8.5
2	Total Dissolved Solids	mg/l	700	670	910	500	2000
3	Turbidity	NTU	0	1	1	1	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1213	1164	1564	NS*	NS*
7	Biochemical	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	365.81	370.82	340.76	250	1000
9	Ca as Ca	mg/l	42.48	37.68	39.28	75	200
10	Mg as Mg	mg/l	59.2920	59.7780	53.9460	30	100
11	Total Hardness	mg/l	350	340	320	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.41	0.30	0.35	1	1.5
14	Sulphate as SO ₄	mg/l	24.90	34.20	27.2	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	6.90	3.90	11.00	45	No Relaxation
17	Salinity	‰	0.66	0.67	0.62	NS*	NS*
18	Sodium as Na	mg/l	-	-	-	NS*	NS*
19	Potassium as K	mg/l	3.26	4.03	3.29	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/100ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified,

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

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Table 14: Drinking Water Quality Monitoring Parameters for Port Colony Kandla, Hospital Kandla and A.O. Building at Gandhidham.

Sr. No.	Parameter	Unit	Port Colony Kandla	Hospital Kandla	A.O. Building	Acceptable Limits as per IS 10500 : 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 :
1	pH	-	7.39	7.31	7.24	6.5 to 8.5	6.5 to 8.5
2	Total Dissolved Solids	mg/l	760	710	1060	500	2000
3	Turbidity	NTU	1	0	0	1	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1328	1251	1821	NS*	NS*
7	Biochemical	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	335.75	345.77	365.81	250	1000
9	Ca as Ca	mg/l	41.68	42.48	40.88	75	200
10	Mg as Mg	mg/l	50.0580	54.4320	62.6940	30	100
11	Total Hardness	mg/l	310	330	360	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.35	0.32	0.46	1	1.5
14	Sulphate as SO ₄	mg/l	28.10	24.50	24.50	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	20.20	7.40	15.60	45	No Relaxation
17	Salinity	‰	0.61	0.62	0.66	NS*	NS*
18	Sodium as Na	mg/l	192.80	193.60	194.50	NS*	NS*
19	Potassium as K	mg/l	4.13	4.18	3.26	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/100ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified,

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

Table 15: Drinking Water Quality Monitoring Parameters for School Gopalpuri, Guest House) and E - Type Quarter at Gopalpuri, Gandhidham

Sr. No.	Parameter	Unit	Gopalpuri School	Guest House	E - Type Quarter	Acceptable Limits as per IS 10500 : 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.3	7.24	7.26	6.5 to 8.5	6.5 to 8.5
2	Total Dissolved Solids	mg/l	830	950	1030	500	2000
3	Turbidity	NTU	1	1	0	1	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1435	1638	1769	NS*	NS*
7	Biochemical Oxygen Demand	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	355.79	350.78	340.76	250	1000
9	Ca as Ca	mg/l	39.28	43.29	39.28	75	200
10	Mg as Mg	mg/l	61.2360	61.2360	51.5160	30	100
11	Total Hardness	mg/l	350	360	310	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.45	0.42	0.47	1	1.5
14	Sulphate as SO ₄	mg/l	24.90	26.00	30.20	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	7.10	8.30	12.60	45	No Relaxation
17	Salinity	‰	0.64	0.63	0.62	NS*	NS*
18	Sodium as Na	mg/l	199.00	193.80	193.00	NS*	NS*
19	Potassium as K	mg/l	3.90	3.26	3.18	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/100 ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified,

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

Table 16: Drinking Water Quality Monitoring Parameters for F-Type Quarter, Hospital Gopalpuri and Tuna Port.

Sr. No.	Parameter	Unit	F - Type Quarter	Hospital Gopalpuri	Tuna Port	Acceptable Limits as per IS 10500 : 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.28	7.42	7.51	6.5 to 8.5	6.5 to 8.5
2	Total Dissolved Solids	mg/l	1050	990	600	500	2000
3	Turbidity	NTU	1	1	-	1	5
4	Odor	-	Odorless	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	Colorless	5	15
6	Conductivity	µs/cm	1796	1700	1044	NS*	NS*
7	Biochemical Oxygen Demand	mg/l	BQL	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	345.77	360.80	380.85	250	1000
9	Ca as Ca	mg/l	38.48	40.88	32.87	75	200
10	Mg as Mg	mg/l	61.7220	62.6940	72.41	30	100
11	Total Hardness	mg/l	350	360	380	200	600
12	Iron as Fe	mg/l	BQL	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.42	0.45	0.43	1	1.5
14	Sulphate as SO ₄	mg/l	26.00	26.10	24.50	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	10.30	6.80	3.00	45	No Relaxation
17	Salinity	‰	0.62	0.65	0.69	NS*	NS*
18	Sodium as Na	mg/l	201.00	201.00	193.60	NS*	NS*
19	Potassium as K	mg/l	3.15	3.16	3.21	NS*	NS*
20	Manganese	mg/l	BQL	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	BQL	5	15
28	Bacterial Count	CFU/100ml	Absent	Absent	Absent	Absent	Absent

*NS: Not Specified, BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

Table 17: Drinking Water Quality Monitoring Parameters for Vadinar Jetty and Port Colony at Vadinar.

Sr. No.	Parameter	Unit	Vadinar Jetty	Port Colony Vadinar	Acceptable Limits as per IS 10500 : 2012	Permissible Limits in the absence of Alternate Source as per IS 10500 : 2012
1	pH	-	7.4	7.43	6.5 to 8.5	6.5 to 8.5
2	Total Dissolved Solids	mg/l	320	300	500	2000
3	Turbidity	NTU	0.00	1.00	1	5
4	Odor	-	Odorless	Odorless	Agreeable	Agreeable
5	Color	-	Colorless	Colorless	5	15
6	Conductivity	µs/cm	570	300	NS*	NS*
7	Biochemical Oxygen Demand	mg/l	BQL	BQL	NS*	NS*
8	Chloride as Cl	mg/l	160.36	140.31	250	1000
9	Ca as Ca	mg/l	36.87	34.47	75	200
10	Mg as Mg	mg/l	43.25	52.00	30	100
11	Total Hardness	mg/l	270	300	200	600
12	Iron as Fe	mg/l	BQL	BQL	0.3	No Relaxation
13	Fluorides as F	mg/l	0.25	0.22	1	1.5
14	Sulphate as SO ₄	mg/l	0.75	0.24	200	400
15	Nitrite as NO ₂	mg/l	BQL	BQL	NS*	NS*
16	Nitrate as NO ₃	mg/l	15.60	12.70	45	No Relaxation
17	Salinity	‰	0.29	0.25	NS*	NS*
18	Sodium as Na	mg/l	191.6	192.0	NS*	NS*
19	Potassium as K	mg/l	BQL	BQL	NS*	NS*
20	Manganese	mg/l	BQL	BQL	0.1	0.3
21	Hexavalent Chromium	mg/l	BQL	BQL	NS*	NS*
22	Copper	mg/l	BQL	BQL	0.05	1.5
23	Cadmium	mg/l	BQL	BQL	0.003	NS*
24	Arsenic	mg/l	BQL	BQL	0.01	0.05
25	Mercury	mg/l	BQL	BQL	0.001	NS*
26	Lead	mg/l	BQL	BQL	0.01	NS*
27	Zinc	mg/l	BQL	BQL	5	15
28	Bacterial Count	CFU/100ml	Absent	Absent	Absent	Absent

*NS: Not Specified,

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Fe-0.009 mg/l, Mn- 0.01 mg/l, Cr+6- 0.03 mg/l, Cu-0.004 mg/l, Cd-0.003 mg/l, As-0.003mg/l, Hg-0.001 mg/l, Pb-0.006mg/l, Zinc-0.021 mg/l).

4.3 Results & Discussion

The colour of all drinking water samples was found Colourless and odour of the samples also agreeable. All parameters were found within the specified limit as per the Drinking water Standard.

pH

The pH is measure of the intensity of acidity or alkalinity and the concentration of hydrogen ion in water. At DPA Site the pH values for drinking water samples ranged from 7.24-7.52 and mean value was 7.36 while at Vadinar pH ranged from 7.40-7.43 and mean value was 7.42. All the sampling points showed pH values within the prescribed limit by Indian Standards.

Turbidity

The selected drinking water sample location turbidity range from 0-1NTU at all location of DPA and Vadinar in month of November. The Turbidity values were within the permissible limit at all sampling location prescribed limit by Indian standards.

Total Dissolved Solids (TDS)

Water has the ability to dissolve a wide range of inorganic and some organic minerals or salts such as potassium, calcium, sodium, bicarbonates, chlorides, magnesium, sulfates etc.

TDS values at DPA varied between 600-1060 mg/l. The average TDS value was found 792 mg/l. The minimum value for TDS was 600 mg/l at Hospital Gopalpuri and maximum was 980 mg/l at Tuna Port while at Vadinar TDS ranged from 280-300 mg/l and mean was 290.0 mg/l. The TDS values were within the permissible limit at all sampling location prescribed limit by Indian standards.

Conductivity

Electrical Conductivity is the ability of a solution to transfer (conduct) electric current. Conductivity is used to measure the concentration of dissolved solids which have been ionized in a polar solution such as water. The conductivity in the samples collected during the month of November DPA ranged from 1044.0 $\mu\text{S}/\text{cm}$ at Tuna Port to 1821.0 $\mu\text{S}/\text{cm}$ at A.O. Building and mean value was 1381.72 $\mu\text{S}/\text{cm}$ while at Vadinar ranged from 300-570 $\mu\text{S}/\text{cm}$ and mean was 435 $\mu\text{S}/\text{cm}$.

BOD

BOD value in the studied area of DPA and Vadinar was found Below Quantification Limit (<2.0 mg/l). IS 10500:2012 does not show any standard values for BOD in drinking water.

Chlorides

Excessive chloride concentration increase rates of corrosion of metals in the distribution system. This can lead to increased concentration of metals in the supply. The Chloride value in the studied area of DPA ranged from 335.75-576.28 mg/l. The mean value was 365.53 mg/l. The minimum chloride was 335.75 mg/l at Port colony and maximum was 576.28 mg/l at Nirmal Building while at Vadinar location chloride ranged from 140.31-160.36 mg/l and mean was 150.33 mg/l. The Chloride was found within the Permissible limit of the Drinking Water Standard.

Calcium

Calcium is most abundant element on the earth crust and is very important for human cell physiology and bones. About 95% calcium in human body stored in bones and teeth. The high deficiency of calcium in humans may caused rickets, poor blood clotting, bones fracture etc. and the exceeding limit of calcium produced cardiovascular diseases.

The Calcium value in the studied area of DPA ranged from 32.87-43.29 mg/l. The mean value was 40.12 mg/l. The minimum calcium was 32.87 mg/l at Tuna Port and maximum was 43.29 mg/l at Gopalpuri Hospital while at Vadinar location Calcium ranged from 34.47-36.87 and mean was 35.67 mg/l. All the locations had calcium within the prescribed limits of 75-200 mg/L.

Magnesium

The magnesium value in the studied area of DPA ranged from 50.06-72.41 mg/l. The mean value was 59.24 mg/l. The minimum magnesium was 50.06 mg/l at Port Colony and maximum was 74.41 mg/l at Tuna Port while at Vadinar location magnesium ranged from 43.25-52.00 and mean was 47.61 mg/l. All the locations had magnesium within the prescribed limits of 30-100 mg/L.

Total Hardness

Total Hardness value in the studied area of DPA ranged from 310.0 mg/l at Port Colony to 380.0 mg/l at Tuna Port and mean value was 343.89 mg/l while at Vadinar location total hardness ranged from 270.0-300.00 mg/l and mean was 285.0 mg/l. The values of total

hardness were found within the Permissible limit of the Drinking Water Standard (200-600 mg/L). These results clear, that hardness of water is according to the IS standards and it is not harmful for local inhabitants.

Iron

Iron values in the studied area of DPA & Vadinar were Below Quantification Limit (0.009 mg/l) and hence well below the permissible limit as per Indian Standards are 0.3 mg/L.

Fluoride

Fluoride value in the studied area of DPA varied between 0.3-0.47 mg/l and mean was 0.38 mg/l. The minimum value was 0.3 mg/ at West gate workshop and maximum was 0.47 mg/l at E-Type and mean was 0.38 mg/l while at Vadinar location fluoride ranged from 0.22-0.25 mg/l and mean was 0.24 mg/l. The Fluoride values were well below the permissible limit as per Indian Standards is 1.0-1.5 mg/L. Moderate amounts lead to dental effects, but long-term ingestion of large amounts can lead to potentially severe skeletal problems.

Sulphate

Sulphate value in the studied area of DPA varied between 24.5–35.8 mg/l and mean was 27.83 mg/l. The minimum value was 24.5 mg/ at A.O. Building, Hospital Kandla and Tuna Port and maximum was 35.8 mg/l at Nirmal Building while at Vadinar location Sulphate ranged from 0.24-0.75 mg/l and mean was 0.50 mg/l. All the sampling points showed Sulphate values within the prescribed limits by Indian Standards (200-400 mg/L). Sulphate content in drinking water exceeding the 400 mg/L imparts bitter taste.

Nitrites (NO₂) and Nitrates (NO₃)

The all values of Nitrite were found BQL (<0.05 mg/l) and Nitrate were well within the permissible limit of the Drinking water Standard.

Salinity

Salinity in drinking water in the present samples collected at DPA ranged from 0.61 ‰ at Canteen to 1.04 ‰ at Nirmal Building and average salinity was 0.66 ‰ while at Vadinar sampling location salinity ranged from 0.25-0.29 ‰. There are no prescribed Indian standards for salinity in Drinking water.

Sodium and Potassium Salts

Sodium values in the samples collected at DPA ranged from 180 - 204 mg/l and average was 195.74 mg/l while at Vadinar sodium ranged from 191.6- 192.0 mg/l and average was 191.8 mg/l . Potassium salts ranged at DPA ranged from 3.15 to 4.18 mg/l while average was 3.42 mg/l while at Vadinar sampling locations potassium were BQL (<2.0 mg/l). There are no prescribed limits of Sodium and Potassium in Indian standards for Drinking water.

Heavy Metals in Drinking Water

In the present study period drinking water samples were analyzed for Mn, Cr, Cu, Cd, As, Hg, Pb and Zn. All these heavy metals were well Below the Quantification limits prescribed by the Indian Standards.

Bacteriological Study

Analysis of the bacteriological parameter (E-coli and total coliform) at all location shows that Bacteria were not detectable. This shows that drinking water samples were safe for human consumption as per tested parameters.

4.4 Conclusions

These results were compared with permissible limits as prescribed in IS 10500:2012 – Drinking Water Specification. It was seen from the analysis data that during the study period at selected sampling location the water was safe for human consumption as per analyzed parameters at all drinking water monitoring stations.

CHAPTER-5

NOISE MONITORING

5.0 Noise Level Monitoring

Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships. Noise Monitoring was done at 13 stations at Kandla, Vadinar and Township area.

5.1 Method of Monitoring

Sampling was done at all stations for 24 hour period. Data was recorded using automated sound level meter. The intensity of sound was measured in sound pressure level (SPL) and common unit of measurement is decibel (dB).

5.2 Results

Table 18: Noise Monitoring data for ten locations of Deendayal Port and three locations of Vadinar Port

Sr. No.	Location	Day Time Average Noise Level (SPL) in dB(A)	Night Time Average Noise Level (SPL) in dB(A)
	Sampling Time	6:00 am to 10:00 PM	10:00PM to 6:00 AM
1	Marine Bhavan	60.8	51.9
2	Nirman Building 1	69.9	52.0
3	Tuna Port	53.2	45.4
4	Main Gate North	63.3	51.9
5	West Gate I	67.7	58.1
6	Canteen Area	68.2	51.2
7	Main Road	66.3	52.2
8	ATM Building	69.1	51.1
9	Wharf Area /Jetty Area	70.4	61.7
10	Port & Custom Office	54.7	50.2
Vadinar Port			
11	Entrance Gate of Vadinar Port	55.0	53.5
12	Nr. Port Colony, Vadinar	60.6	57.6
13	Nr. Vadinar Jetty	52.5	51.0

5.3 Conclusions

Transportation systems are the main source of noise pollution in urban areas. Construction of buildings, highways, and roads cause a lot of noise, due to the usage of air compressors, bulldozers, loaders, dump trucks, and pavement breakers. Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships.

Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading containers and ships. The Day Time Noise Level (SPL) in all 10 locations at Deendayal Port Authority ranged from 53.2 dB(A) to 70.4 dB(A) while at Vadinar port 3 location ranged from 52.5 dB(A) to 60.6 dB(A) which was within the permissible limits of 75 dB(A) for the industrial area for the daytime. The Night Time Average Noise Level (SPL) in all locations of Deendayal Port Authority ranged from 45.4 dB to 61.7 dB(A) while at Vadinar port ranged from 52.5 dB (A) to 60.6 dB(A) which was within the permissible limits of 70 dB(A) for the industrial area for the night time.

CHAPTER-6

SOIL MONITORING

6.0 Soil Monitoring

Sampling and analysis of soil samples were undertaken at six locations within the study area (Deendayal Port and Vadinar Port) as a part of EMP. The soil sampling locations are initially decided based on the locations as provided in the tender document of the Deendayal Port.

Table No.:-19. Soil Sampling Location

Sr. No.	Name of Location	Location Code	Latitude	Longitude	Remarks
1.	Tuna Port	SL-1	22° 58' 10.18"N	70° 6' 3.7"E	Near main gate of Port
2.	IFFCO Plant	SL-2	23° 26' 8.37"N	70° 13' 4.4"E	10 m away from main gate
3.	Khori creek	SL-3	22° 58' 10.18"N	70° 6' 3.7"E	Sand from creek after tide
4.	Nakti Creek	SL-4	23° 2' 1.10"N	70° 9' 33.6"E	
5.	DPA admin site	SL-5	22° 26' 30.9"N	69° 40' 37.03"E	Vadinar
6.	DPA colony	SL-6	22° 23' 57.09"N	69° 42' 49.42"E	

6.1 Methodology

The soil samples were collected in the month of November 2022. The samples collected from the all locations are homogeneous representative of each location. At random locations were identified at each location and soil was dug from 30 cm below the surface. It was uniformly mixed before homogenizing the soil samples. The samples were filled in polythene bags, labeled in the field with number and site name and sent to laboratory for analysis.

6.2 Results

Table-20: Chemical Characteristics of Soil in the Study Area for Tuna port, IFFCO, Khori Creek, Nakti Creek, DPA admin site, DPA colony.

Sr. No.	Parameter	Unit	Station Name					
			SL1	SL2	SL3	SL4	SL5	SL6
			Tuna Port	IFFCO Plant	Khori Creek	Nakti Creek	DPA Admin Site	DPA Colony
			Near main gate of Port	10 m away from main	Sand from creek after tide		Vadinar	
1	Texture		Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	pH	-	7.79	7.80	7.54	7.58	8.14	7.54
3	Electrical Conductivity	µs/cm	35000.0	36100.0	26,820.00	12,700.0	155.0	594.0
4	Phosphorus	mg/kg	10.3	10.5	9.19	8.49	6.00	4.80
5	Moisture	%	15.9	20.3	20.90	3.50	7.20	10.10
6	Total Organic	%	4.04	1.7	3.64	7.80	2.30	2.00
7	Alkalinity	mg/kg	900.0	1000.0	800.0	500.0	800.0	600.0
8	Total Nitrogen	%	BQL	BQL	BQL	BQL	BQL	BQL
9	Sulphate	mg/kg	820.00	982.00	1,080.00	810.00	30.0	70.0
10	Chloride	mg/kg	15598.0	14275.0	12,600.00	2,950.00	140.00	525.00
11	Calcium	mg/kg	2,605.00	2,505.00	31,600.00	3,086.00	1,729.00	1,849.00
12	Sodium	mg/kg	5657	7136.0	7,649.00	4,675.00	33.02	116.90
13	Potassium	mg/kg	552	694	708.00	437.00	44.60	44.52
14	Copper as Cu	mg/kg	27.4	15.5	30.50	14.50	54.10	31.60
15	Lead as Pb	mg/kg	7.4	7.4	9.50	6.30	74.10	75.30
16	Nickel as Ni	mg/kg	39.40	32.70	44.40	27.20	30.30	32.00
17	Zinc as Zn	mg/kg	62.4	77.40	79.20	56.50	50.60	86.00
18	Cadmium as Cd	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (TN: 0.001%, Cd: 1.0mg/kg)

6.3 Discussion

- DPA Kandla soil sampling data shows that value of pH ranges from 7.54 at Khori Creek to 7.80 at IFFCO Plant while the average value was 7.68. At Vadinar sampling location pH were 7.54 at DPA colony and 8.14 at DPA Admin Site.
- The Electrical Conductivity of DPA Kandla soil sample ranged from 12700.0 $\mu\text{S}/\text{cm}$ at Nakti Creek (Sand from creek after tide) to 36100 $\mu\text{S}/\text{cm}$ at IFFCO Plant and mean was 27655 $\mu\text{S}/\text{cm}$ while Vadinar soil sampling location conductivity were 155 $\mu\text{S}/\text{cm}$ at DPA Admin Site and 594 $\mu\text{S}/\text{cm}$ at DPA Colony site.
- Total organic Carbon of DPA Kandla soil sample ranged from 1.7 % at IFFCO Plant to 7.80 % at Nakti Creek (Sand from creek after tide) and mean was 4.30 % while Vadinar soil sample were 2.0 % at DPA Colony and 2.30 % at DPA admin Site.
- The concentration of Phosphorus in the soil samples of DPA Kandla varies from 8.49 mg/kg at Nakti Creek (Sand from creek after tide) and 10.5 mg/kg at IFFCO Plant and mean was 9.62 mg/kg while the Vadinar soil sample for Phosphorus were 4.80 mg/kg at DPA Colony and 6.00 mg/kg at DPA Admin Site.
- Chloride in soil sample of DPA ranged from 2950.00 mg/kg at Nakti Creek (Sand from creek after tide) to 15598 mg/kg at Tuna Port and mean was 11356 mg/kg while Vadinar soil sample were 140 mg/kg at DPA admin and 525 mg/kg at DPA Colony.
- The Concentration of Potassium in the soil samples of DPA Kandla ranged from 437 mg/kg at Nakti creek and 708 mg/kg at Khori Creek and mean was 597.75 mg/kg while the Vadinar soil sample for Potassium were 44.52 mg/kg at DPA Colony Site and 44.60 mg/kg at DPA Admin Site.
- The concentration of Sodium in the soil samples of DPA Kandla ranged from 4675.0 mg/kg at Nakti creek and 7649.0 mg/kg at Khori Creek and mean was 6279 mg/kg while the Vadinar soil sample for Sodium were 33.00 mg/kg at DPA Admin Site and 117 mg/kg at DPA Colony.

These differences in NPK in soil at different locations are due to the dissimilar nature of soil at each of the locations. Samples SL3 & SL4 (Khori Creek & Nakti Creek) were coastal soil; where as other locations are inland locations and have different chemical properties.

Heavy Metals in the Soil

Traces of Copper, Lead, Nickel and Zinc were observed in the soil samples collected from all the four locations of Deendayal Port Authority Kandla and two locations of Vadinar Port. Cadmium metal was below detection limit in the Soil.

6.4 Conclusion

The soils of Deendayal Port Authority Kandla and Vadinar Port appears to be neutral to basic with varying levels of Chloride, Sulphate, NPK and Calcium. As the nature of soil at different locations are different with respect to its proximity to the sea, the samples showed high degree of variations in their chemical properties.

CHAPTER-7

SEWAGE TREATMENT PLANT MONITORING

7.0 Sewage Treatment Plant Monitoring

This involves safe collection of waste water (spent/used water) from wash areas, bathroom, industrial units, etc., waste from toilets of various buildings and its conveyance to the treatment plant and final disposal in conformity with the requirement and guidelines of State Pollution Control Board and other statutory bodies.

7.1 Methodology for STP Monitoring

To monitor the working efficiency of Sewage Treatment Plant (STP), STP Inlet and Outlet Samples were collected once a week. Locations selected are namely Gopalpuri Township, Deendayal Port and Vadinar. Samples were collected in 1 lit. Carboys and were analyzed in laboratory for various parameters.

A new STP with an improved capacity of 1 MLD is being constructed at Gopalpuri Colony.

Table No. 21. Sewage Treatment Plant

Sr. No.	Location of STP	Types of Treatment	STP Capacity	Treated water Utilization
1.	Gopalpuri Township	MBBR	450 KLD	Plantation and Gardening
2.	Deendayal Port, Kandla	MBBR	600 KLD	Discharge to marine through pipeline, Plantation, Gardening
3.	Vadinar Port Colony	MBBR	1.5 MLD	Plantation and Gardening

7.2 Results

Table 22: Sewage Water Monitoring at Kandla STP (1st Week)

Date of Sampling	03.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.55	7.42	6.5 - 8.5
2	Total Suspended Solids	mg/l	100.6	46.8	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	80.8	30.3	100
5	BOD @ 27 °C	mg/l	22	11	30
Aeration Tank					
6	MLSS	mg/l	14.0		
7	MLVSS	%	99.73		

Table 23: Sewage Water Monitoring at Kandla STP (2nd Week)

Date of Sampling	10.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.41	7.36	6.5 - 8.5
2	Total Suspended Solids	mg/l	127	52.6	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	90.9	40.4	100
5	BOD @ 27 °C	mg/l	23	11	30
Aeration Tank					
6	MLSS	mg/l	18.0		
7	MLVSS	%	85.00		

Table 24: Sewage Water Monitoring at Kandla STP (3rd Week)

Date of Sampling	17.11.2022
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Sr. No.	Parameters	Unit	Results		CPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.48	7.29	6.5 - 8.5
2	Total Suspended Solids	mg/l	86.4	22.9	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	101	50.5	100
5	BOD @ 27 °C	mg/l	26	14	30
Aeration Tank					
6	MLSS	mg/l	20.0		
7	MLVSS	%	98.0		

Table 25: Sewage Water Monitoring at Kandla STP (4th Week)

Date of Sampling	24.10.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.41	7.29	6.5 - 8.5
2	Total Suspended Solids	mg/l	164.2	58.7	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	171.7	30.3	100
5	BOD @ 27 °C	mg/l	43	10	30
Aeration Tank					
6	MLSS	mg/l	20.0		
7	MLVSS	%	89.0		

Table 26: Sewage Water Monitoring at Gopalpuri STP (1st Week)

Date of Sampling	03.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.47	7.31	6.5 - 8.5
2	Total Suspended Solids	mg/l	121.2	61	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	111.1	60.6	100
5	BOD @ 27 °C	mg/l	32	13	30
Aeration Tank					
6	MLSS	mg/l	22.0		
7	MLVSS	%	97.16		

Table 27: Sewage Water Monitoring at Gopalpuri STP (2nd Week)

Date of Sampling	10.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			DPA STP I/L	DPA STP O/L	
1	pH	-	7.35	7.27	6.5 - 8.5
2	Total Suspended Solids	mg/l	189	67.9	100
3	Residual Chlorine	mg/l			-
4	COD	mg/l	141.4	60.6	100
5	BOD @ 27 °C	mg/l	37	15	30
Aeration Tank					
6	MLSS	mg/l	16.0		
7	MLVSS	%	89.6		

Table 28: Sewage Water Monitoring at Gopalpuri STP (3rd Week)

Date of Sampling	17.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Gopalpuri STP I/L	Gopalpuri STP O/L	
1	pH	-	7.41	7.36	6.5 - 8.5
2	Total Suspended Solids	mg/l	127	52.6	100
3	Residual Chlorine	mg/l			-
4	COD	mg/l	90.9	40.4	100
5	BOD @ 27 °C	mg/l	23	11	30
Aeration Tank					
6	MLSS	mg/l	08.0		
7	MLVSS	%	98.0		

Table 29: Sewage Water Monitoring at Gopalpuri STP (4th Week)

Date of Sampling	24.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Gopalpuri STP I/L	Gopalpuri STP O/L	
1	pH	-	7.48	7.28	6.5 - 8.5
2	Total Suspended Solids	mg/l	110.2	42.1	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	78	40	100
5	BOD @ 27 °C	mg/l	24.0	12.0	30
Aeration Tank					
6	MLSS	mg/l	18.0		
7	MLVSS	%	90.0		

Table 30: Sewage Water Monitoring at Vadinar STP (1st Week)

Date of Sampling	03.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Vadinar STP I/L	Vadinar STP O/L	
1	pH	-	7.35	7.25	6.5 - 8.5
2	Total Suspended Solids	mg/l	74.9	39.5	100
3	Residual Chlorine	mg/	-	<0.5	-
4	COD	mg/l	101	40.4	100
5	BOD @ 27 °C	mg/l	26.0	10.0	30

Table 31: Sewage Water Monitoring at Vadinar STP (2nd Week)

Date of Sampling	10.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Vadinar STP I/L	Vadinar STP O/L	
1	pH	-	7.38	7.21	6.5 - 8.5
2	Total Suspended Solids	mg/l	69.6	40.3	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	131.3	50.5	100
5	BOD @ 27 °C	mg/l	32.0	7.0	30

Table 32: Sewage Water Monitoring at Vadinar STP (3rd Week)

Date of Sampling	17.11.2022
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Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Vadinar STP I/L	Vadinar O/L	
1	pH	-	7.51	7.42	6.5 - 8.5
2	Total Suspended Solids	mg/l	38.6	16.9	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	80.8	20.2	100
5	BOD @ 27 °C	mg/l	24.0	12.0	30

Table 33: Sewage Water Monitoring at Vadinar STP (4th Week)

Date of Sampling	24.11.2022
-------------------------	------------

Sr. No.	Parameters	Unit	Results		GPCB Prescribed Limit
			Vadinar STP I/L	Vadinar STP O/L	
1	pH	-	7.61	7.42	6.5 - 8.5
2	Total Suspended Solids	mg/l	76.9	33.3	100
3	Residual Chlorine	mg/l	-	<0.5	-
4	COD	mg/l	131.3	20.2	100
5	BOD @ 27 °C	mg/l	20.0	8.0	30

Table No. 34. General Standards for discharge of Environmental Pollutant Part-A

Sr. No.	Parameter	Inland Surface Water	Land Irrigation	Marine Coastal Areas
1.	pH	5.5-9.0	5.5-9.0	5.5-9.0
2.	Total Suspended Solids (mg/l)	100	200	100
3.	Residual Chlorine (mg/l)	1.0	-	1.0
4.	BOD (mg/l)	30	100	100
5.	COD (mg/l)	250	-	250

Sources:-CPCB**7.3 Results & Discussion**

The STP Sample carried out to evaluate the efficiency and performance of the wastewater treatment plant at Gopalpuri, Kandla and Vadinar STP. The performance of these plants is an essential parameter to monitor because the treated sewage water is discharged for irrigation purposes and discharge into marine. Wastewater samples were collected from different unit operations of the plant i.e, the inlet, aeration tank and the final treated outlet. These samples were analyzed for various physico-chemical characteristics such as pH, TSS, Residual Chlorine, COD, BOD, MLSS and MLVS.

The final treated outlet observed pH values were within the allowed range at STP Gopalpuri, STP Kandla & STP Vadinar ranged from 7.22 -7.35, 7.29-7.42 & 7.21-7.42 respectively. The wastewater treatment makes it suitable for irrigation. These values are below the allowed limit of the GPCB.

- The final treated outlet observed Total suspended solid values at Gopalpuri, DPA Kandla & Vadinar ranged from 27.10-67.90 mg/l, 22.90-58.70 mg/l & 16.60-40.30 mg/l respectively. These values are below the allowed limit of the GPCB.
- The final treated outlet observed Residual Chlorine values were <0.5 at Gopalpuri, DPA Kandla & Vadinar. These values are below the allowed limit of the CPCB.
- The final treated outlet observed COD values were at Gopalpuri, DPA Kandla & Vadinar ranged from 40.40-60.60 mg/l, 30.30-50.50 mg/l & 20.20-50.50 mg/l respectively. These values are below the allowed limit of the CPCB.

- The main focus of wastewater treatment plants is supposed to reduce the BOD in the effluent discharged to natural waters. Wastewater treatment plants are designed to function as bacteria farms, where bacteria are fed oxygen and organic waste. The final treated outlet observed BOD values were at Gopalpuri, DPA Kandla & Vadinar ranged from 12.0-16.0 mg/l, 10.0-14.0 mg/l & 7.0-12.0 mg/l respectively. These values are below the allowed limit of the GPCB.

7.4 Conclusions:

All parameters for STP outlet are within limit prescribed by CPCB. After the final treatment, it is found that the treated water is satisfactory.

CHAPTER-8

MARINE WATER MONITORING

8.0 Marine Water Monitoring

Marine Water Quality

The Forty Second Amendment to the Constitution in 1976 underscored the importance of ‘green thinking’. Article 48A enjoins the state to protect and improve the environment and safeguard the forests and wildlife in the country. Further, Article 51A (g) states that the “fundamental duty of every citizen is to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures”.

Policy Statement for Abatement of Pollution (1992) has suggested developing relevant legislation and regulation, fiscal incentives, voluntary agreements and educational programs and information campaigns. It emphasizes the need for integration by incorporating environmental considerations into decision making at all levels by adopting frameworks namely, pollution prevention at source, application of best practicable solution, ensure polluter pays for control of pollution, focus on heavily polluted areas and river stretches and involve public in decision-making. The National Conservation Strategy and Policy Statement on Environment and Development, (1992) aimed at “integrating environmental concerns with developmental imperatives to meet the challenges by redirecting the thrust of our developmental process so that the basic needs of our people could be fulfilled by making judicious and sustainable use of natural resources.” The priorities mentioned in this policy document include the sustainable use of land and water resources, prevention and control of pollution and preservation of biodiversity.

The National Water Policy, (2002) contains provisions for developing, conserving, sustainable utilizing and managing this important water resources and need to be governed by national perspectives.

Sampling Stations

The monitoring of marine environment for the study of biological and ecological parameters was carried out on 01st & 02nd November-2022 in harbor regions of DPA & Vadinar during Neap tide period of New moon phase of Lunar Cycle. The monitoring of marine environment for the study of biological and ecological parameters was repeated again on 8th & 9th November-2022 in harbor regions of DPA & Vadinar during Spring tide period first quarter of Lunar Cycle.

Plankton samples from sub surface layer was collected both during high tide period and low tide period from 3 water quality monitoring stations of DPA harbor area and two stations in Nakti creek and one station in Khorī creek. The same sampling schedule was repeated during consecutive spring tide and neap tide in same month. Plankton samples from sub surface layer was collected both during high tide period and low tide period from 1 water quality monitoring stations near Vadinar jetty area during spring tide and neap tide in this month. Collected water samples were processed for estimation

of Chlorophyll- a, Pheophytin- a, qualitative & quantitative evaluation of phytoplankton, qualitative & quantitative evaluation zooplanktons (density and their population).

Sampling Locations

Offshore monitoring requirement	Number of locations
Offshore Installations	3 in Kandla creek 2 in Nakti creek 1 in Khori creek 1 near Vadinar Jetty 1 near 1 st SBM
Total Number of locations	8

8.1 Marine Water Quality and Results

Marine water quality of marine waters of Deendayal Port Harbor waters, Khori & Nakti Creeks and two locations of Vadinar are monitored for various physico-chemical parameters during spring and neap tide of each month. The results of marine water quality from table no 35 to 42. During low tide DPA-6 Nakti-II location monitoring was not possible due to non-availability of marine water.

Table 35: Marine Water Quality Monitoring Parameters for Location Near DPA Colony

Sr. No.	Parameters	Unit	Kandla Creek Near DPA Colony (1)			
			23°0'58"N 70°13'22."E			
			Spring Tide		Neap Tide	
	Tide		High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.61	7.58	7.55	7.46
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	19.0	19.9	20.4	19.0
5	Turbidity	NTU	38	35	42	35
6	Total Dissolved Solids	mg/l	34152.0	30868.0	30941.0	31974.0
7	Total Suspended Solids	mg/l	639.6	600.6	646.4	595.6
8	Total Solids	mg/l	34791.6	31468.6	31587.4	32569.6
9	DO	mg/l	5.8	5.6	5.7	5.5
10	COD	mg/l	88.0	79.0	82.0	86.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	1.06	0.82	0.99	0.91
13	Phosphate	mg/l	0.48	0.31	0.09	0.04
14	Sulphate	mg/l	3580	3407	3708.0	3658
15	Nitrate	mg/l	4.70	0.50	0.75	0.42
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	521.04	440.88	561.12	480.96
18	Magnesium	mg/l	1773.9	1749.6	1701	1773.9
19	Sodium	mg/l	8011.0	8399.0	8396.0	8699.0
20	Potassium	mg/l	299.0	385.0	391.0	395.0
21	Iron	mg/l	BQL	BQL	0.88	0.57
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 36: Marine Water Quality Monitoring Parameters for Location Near Passenger Jetty One at Kandla

Sr. No.	Parameters	Unit	Near passenger Jetty One (2)			
			23° 0'18 "N 70°13'31"E			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.43	7.28	7.33	7.41
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	20.8	20.4	19.9	18.6
5	Turbidity	NTU	43	48	36	41
6	Total Dissolved Solids	mg/l	35468.0	37102.0	34662.0	33398.0
7	Total Suspended Solids	mg/l	679.7	665.5	703.7	663.8
8	Total Solids	mg/l	36147.7	37767.5	35365.7	34061.8
9	DO	mg/l	5.9	6.2	5.6	5.2
10	COD	mg/l	86.0	94.0	90.0	92.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	1.26	0.86	1.33	0.85
13	Phosphate	mg/l	0.29	0.13	0.33	0.19
14	Sulphate	mg/l	3571	3470	4072	3407
15	Nitrate	mg/l	3.40	2.70	1.17	4.36
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	561.12	601.20	601.2	521.04
18	Magnesium	mg/l	1701	1603.8	1749.6	1701
19	Sodium	mg/l	9142.0	9345.0	9247.0	9219.0
20	Potassium	mg/l	370.0	385.0	370.0	380.0
21	Iron	mg/l	0.47	BQL	1.76	0.30
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Nitrite: 0.05mg/l Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 37: Marine Water Quality Monitoring Parameters for location Near Coal Berth

Sr. No.	Parameters	Unit	Near Coal Berth			
			22°59'12"N 70°13'40"E			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.37	7.51	7.53	7.25
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	18.6	18.1	19.5	20.8
5	Turbidity	NTU	33	42	38	45
6	Total Dissolved Solids	mg/l	39222.0	37586.0	37123.0	36668.0
7	Total Suspended Solids	mg/l	540.2	638.4	620.6	580.2
8	Total Solids	mg/l	39762.2	38224.4	37743.6	37248.2
9	DO	mg/l	7.3	6.4	7.1	6.5
10	COD	mg/l	81.0	874.0	88.0	84.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	0.56	0.98	0.69	1.76
13	Phosphate	mg/l	0.06	0.56	0.12	0.61
14	Sulphate	mg/l	4222	3458	2981	3758
15	Nitrate	mg/l	2.20	4.60	2.68	4.70
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	480.96	641.28	641.28	721.44
18	Magnesium	mg/l	1628.1	1628.1	1676.7	1603.8
19	Sodium	mg/l	8346.0	9380.0	9245.0	9814.0
20	Potassium	mg/l	391.0	300.0	392.0	384.0
21	Iron	mg/l	BQL	BQL	BQL	1.34
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 38: Marine Water Quality Monitoring Parameters for location Khori creek at Kandla

Sr. No.	Parameters	Unit	Khori creek			
			Near 15/16 Berth			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.48	7.27	7.34	7.21
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	20.4	19.5	18.6	17.7
5	Turbidity	NTU	35	31	43	39
6	Total Dissolved Solids	mg/l	32557.0	34294.0	30473.0	33329.0
7	Total Suspended Solids	mg/l	641.2	616.3	594.7	731.2
8	Total Solids	mg/l	33198.2	34910.3	31067.7	34060.2
9	DO	mg/l	7.6	6.3	7.3	6.8
10	COD	mg/l	85.0	96.0	92.0	96.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	0.78	1.04	1.39	1.18
13	Phosphate	mg/l	0.44	0.67	0.35	0.42
14	Sulphate	mg/l	4047	3646	3157	3170
15	Nitrate	mg/l	3.70	1.10	1.34	5.20
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	561.12	480.96	480.96	561.12
18	Magnesium	mg/l	1725.3	1676.7	1701	1628.1
19	Sodium	mg/l	9112.0	8436.0	7966.0	8696.0
20	Potassium	mg/l	299.0	385.0	382.0	377.0
21	Iron	mg/l	0.44	BQL	0.17	0.31
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	0.02
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 39: Marine Water Quality Monitoring Parameters for location Nakti Creek near Tuna Port

Sr. No.	Parameters	Unit	Nakti Creek Near Tuna Port			
			22°57'49."N 70° 7'0.67"E			
			Spring Tide		Neap Tide	
	Tide		High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.41	7.36	7.48	7.23
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	19.0	18.6	19.0	19.5
5	Turbidity	NTU	45	36	40	42
6	Total Dissolved Solids	mg/l	30214.0	28996.0	31047.0	31957.0
7	Total Suspended Solids	mg/l	642.7	526.2	682.5	606.8
8	Total Solids	mg/l	30856.7	29522.2	31729.5	32563.8
9	DO	mg/l	8.1	7.5	6.4	7.2
10	COD	mg/l	94.0	112.0	98.0	100.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	1.12	1.20	1.42	1.22
13	Phosphate	mg/l	0.71	0.37	0.46	0.12
14	Sulphate	mg/l	4172	3846	3445	3433
15	Nitrate	mg/l	1.50	1.70	5.12	1.69
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	440.88	641.28	601.2	521.04
18	Magnesium	mg/l	1725.3	1555.2	1701	1773.9
19	Sodium	mg/l	8639.0	9143.0	8655.0	7939.0
20	Potassium	mg/l	395.0	386.0	384.0	386.0
21	Iron	mg/l	BQL	0.33	0.34	0.18
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	BQL	BQL	BQL	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l,BOD-2.0 mg/l,Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l,Zinc-0.1 mg/l).

Table 40: Marine Water Quality Monitoring Parameters for location Nakti Creek Near NH-8A at Kandla

Sr. No.	Parameters	Unit	Nakti Creek Near NH-8A			
			23° 02'01"N 70° 09'31"E			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.45	Sampling not possible during Low Tide	7.45	Sampling not possible during Low Tide
2	Color	-	Agreeable		Agreeable	
3	Odor	-	Agreeable		Agreeable	
4	Salinity	‰	19.9		20.8	
5	Turbidity	NTU	45		44	
6	Total Dissolved Solids	mg/l	30288.0		32796.0	
7	Total Suspended Solids	mg/l	529.6		595.7	
8	Total Solids	mg/l	30817.6		33391.7	
9	DO	mg/l	7.4		6.9	
10	COD	mg/l	118.0		110.0	
11	BOD	mg/l	BQL		BQL	
12	Silica	mg/l	1.02		0.16	
13	Phosphate	mg/l	0.75		0.46	
14	Sulphate	mg/l	4109		4961	
15	Nitrate	mg/l	2.70		3.52	
16	Nitrite	mg/l	<0.05		BQL	
17	Calcium	mg/l	681.36		641.28	
18	Magnesium	mg/l	1506.6		1628.1	
19	Sodium	mg/l	9280.0		8528.0	
20	Potassium	mg/l	427.0		427.0	
21	Iron	mg/l	BQL		0.54	
22	Chromium	mg/l	BQL		BQL	
23	Copper	mg/l	BQL		BQL	
24	Arsenic	mg/l	BQL		BQL	
25	Cadmium	mg/l	BQL		0.01	
26	Mercury	mg/l	BQL		BQL	
27	Lead	mg/l	BQL		BQL	
28	Zinc	mg/l	BQL		BQL	

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1 mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 41: Marine Water Quality Monitoring Parameters for locations Nr. Vadinar Jetty

Sr. No.	Parameters	Unit	Nr.Vadinar Jetty			
			22°26'25.26"N 69°40'20.41"E			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.43	7.26	7.36	7.29
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	20.4	20.8	19.0	19.9
5	Turbidity	NTU	39	42	38	42
6	Total Dissolved Solids	mg/l	35265.0	37685.0	36325.0	36681.0
7	Total Suspended Solids	mg/l	585.3	590.8	681.4	657.6
8	Total Solids	mg/l	35850.3	38275.8	37006.4	37338.6
9	DO	mg/l	5.7	5.4	6.3	5.8
10	COD	mg/l	87.0	89.0	96.0	92.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	0.55	0.45	0.36	0.28
13	Phosphate	mg/l	0.18	0.42	0.33	0.19
14	Sulphate	mg/l	3608	3558	3683	3645
15	Nitrate	mg/l	2.35	1.09	1.00	2.43
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	480.96	601.20	521.04	480.96
18	Magnesium	mg/l	1603.8	1652.4	1676.7	1749.6
19	Sodium	mg/l	9448.0	7368.0	7810.0	8912.0
20	Potassium	mg/l	371.0	354.0	452.0	456.0
21	Iron	mg/l	BQL	BQL	0.31	BQL
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	0.29	BQL	0.77	0.35

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l).

Table 42: Marine Water Quality Monitoring Parameters for locations Nr. Vadinar SPM

Sr. No.	Parameters	Unit	Nr. Vadinar SPM			
			22°30'56.15"N 69°42'12.07"E			
			Spring Tide		Neap Tide	
			High Tide	Low Tide	High Tide	Low Tide
1	pH	-	7.37	7.22	7.41	7.35
2	Color	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Odor	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Salinity	‰	19.0	17.7	19.5	18.6
5	Turbidity	NTU	37	40	37	39
6	Total Dissolved Solids	mg/l	39961.0	39198.0	42642.0	40730.0
7	Total Suspended Solids	mg/l	545.5	493.6	714.3	657.9
8	Total Solids	mg/l	40506.5	39691.6	43356.3	41387.9
9	DO	mg/l	6.1	5.5	5.6	6.1
10	COD	mg/l	95.0	98.0	96.0	94.0
11	BOD	mg/l	BQL	BQL	BQL	BQL
12	Silica	mg/l	0.47	0.37	0.34	0.30
13	Phosphate	mg/l	1.08	0.19	0.46	0.28
14	Sulphate	mg/l	3495	3796	3745	4008
15	Nitrate	mg/l	3.86	2.18	4.95	2.10
16	Nitrite	mg/l	<0.05	<0.05	BQL	BQL
17	Calcium	mg/l	561.12	400.80	681.36	641.28
18	Magnesium	mg/l	1628.1	1676.7	1555.2	1628.1
19	Sodium	mg/l	8473.0	10386.0	9131.0	8526.0
20	Potassium	mg/l	452.0	406.0	413.0	441.0
21	Iron	mg/l	BQL	BQL	0.24	BQL
22	Chromium	mg/l	BQL	BQL	BQL	BQL
23	Copper	mg/l	BQL	BQL	BQL	BQL
24	Arsenic	mg/l	BQL	BQL	BQL	BQL
25	Cadmium	mg/l	BQL	BQL	BQL	BQL
26	Mercury	mg/l	BQL	BQL	BQL	BQL
27	Lead	mg/l	BQL	BQL	BQL	BQL
28	Zinc	mg/l	0.28	BQL	0.40	BQL

BQL- Below Quantification Limit, (Nitrite - 0.05 mg/l, BOD-2.0 mg/l, Cu-0.1 mg/l, As-0.1mg/l, Hg-0.01 mg/l, Zinc-0.1 mg/l)

8.2 Results & Discussion for Marine water samples

Marine water quality of Deendayal Port Harbor waters, Khorī and Nakti Creeks and two locations of Vadinar are monitored for various physico-chemical parameters during spring and neap tide of each month. The Heavy metal analyzed and mostly found below quantification limit.

pH

During spring tide the pH values was ranged from 7.27-7.61 at DPA Kandla and 7.22-7.43 at Vadinar while during Neap Tide pH values was ranged from 7.21-7.55 at DPA Kandla and 7.29-7.41 at Vadinar.

Color and Odor

All marine samples for Odor and Color were found agreeable at all sampling locations.

Turbidity

During spring tide the Turbidity values was ranged from 31-48 NTU at DPA Kandla and 37-42 NTU at Vadinar while during Neap Tide Turbidity values was ranged from 35-45 NTU at DPA Kandla and 37-42 NTU at Vadinar. Turbidity is the amount of particulate matter that is suspended in water. Turbidity measures the scattering effect that suspended solids have on light: the higher the intensity of scattered light, the higher the turbidity (Yap et al, 2011). Materials that cause water to be turbid include clay, silt, finely divided organic and inorganic matter, soluble colored organic compounds, plankton and microscopic organisms (Lawler, 2004). The turbidity affects the amount of light penetrating to the plants for photosynthesis.

Total Dissolved Solids (TDS)

TDS values in the studied area during Spring Tide varied between 28966- 39222 mg/l at DPA Kandla and 35265-39961 mg/l at Vadinar while during Neap Tide TDS values was varied 30473-37123 mg/l at DPA Kandla and 36325-42642 mg/l at Near Vadinar.

Calcium

Calcium value in the studied area during Spring Tide varied between 440.9-681.4 mg/l at DPA Kandla and 400.8-601.2 mg/l at Vadinar while during Neap Tide calcium values between 481.0-721.4 mg/l at DPA Kandla and 481.0-681.4 mg/l at Vadinar.

Magnesium

Magnesium value in the studied area during Spring Tide varied between 1506.6-1773.9 mg/l at DPA Kandla and 1603.8-1676.7 mg/l at Vadinar while during Neap Tide magnesium values between 1603.80-173.9 mg/l at DPA Kandla and 1555.2 -1749.60 at Vadinar. Calcium and magnesium both play an important role in antagonizing the toxic effects of various ions and neutralizing the excess acid produced (Narayan R. et. al., 2007)

Nitrate

Nitrate value in the studied area during Spring Tide varied between 0.5-4.7 mg/l at DPA Kandla and 1.09-3.86 mg/l at Vadinar while during Neap Tide Nitrate values between 0.42-5.2 mg/l at DPA Kandla and 1.0-4.95 at Vadinar.

The variations were observed due to variation in phytoplankton excretion, oxidation of ammonia, reduction of nitrate and by recycling of nitrogen and bacterial decomposition of planktonic detritus (Asha and Diwakar, 2007).

Iron

Iron values in the studied area during Spring Tide ranged from 0.33-0.47 mg/l at DPA Kandla and at Vadinar were BQL (<0.10) while during Neap Tide Iron values ranged from 0.17-1.76 mg/l at DPA Kandla and 0.24-0.31 mg/l at Vadinar.

Sulphates

Sulphate values in the studied area during Spring Tide ranged from 3407-4222 mg/l at DPA Kandla and 3495-3796 mg/l at Vadinar while during Neap Tide the Sulphate values was varied 2981-4961 mg/l at DPA Kandla and 3645-4008mg/l at Vadinar.

Salinity

Salinity values in the studied area during Spring Tide varied ranged 18.11 to 20.82 ‰ at DPA Kandla and 17.65 to 20.82 ‰ at Vadinar while during Neap Tide the Salinity values was varied 17.65 to 20.82 ‰ at DPA Kandla and 18.55 to 19.92 ‰ at Vadinar.

Sodium and Potassium Salts

During Spring Tide the Sodium values ranged from 8011-9380 mg/l at DPA Kandla & 7368-10386 mg/l at Vadinar and Potassium salts ranged from 299-427 mg/l at DPA Kandla & 354-452 mg/l at Vadinar while during Neap Tide the Sodium values was ranges from 7939-

9814 mg/l at DPA Kandla & 7810-9131 mg/l at Vadinar and Potassium salts ranged from 370-427 mg/l at DPA Kandla & 413-456 mg/l at Vadinar.

DO

The DO refers to the amount of oxygen dissolved in the water and it is particularly important in limnology {(aquatic ecology) (Weiss 1970)}. The fate and behavior of DO is of critical importance to marine organisms in determining the severity of adverse impacts (Best et al. 2007). The major factor controlling dissolved oxygen concentration is biological activity: photosynthesis producing oxygen while respiration and nitrification consume oxygen (Best et al. 2007). From the studied samples, DO in marine water during Spring Tide was found in ranges from 5.6-8.1 mg/l at DPA Kandla and 5.4-6.1 mg/l at Vadinar while during Neap Tide 5.2-7.3 mg/l at DPA Kandla and 5.6-6.3 mg/l at Vadinar.

BOD

BOD in marine water at all sampling location in the studied samples were found BQL (<2.0 mg/l).

Heavy Metals in Marine Water

In the present study period marine water samples were analyzed for Cr, Cu, Cd, As, Hg, Pb and Zn. Maximum heavy metals parameters were well Below the Quantification limits.

9.3 Conclusion

In the present study period marine water samples were analyzed and found inline as per Primary Water Quality criteria for class-IV WATERS (For Harbour Waters).

CHAPTER-9

MARINE SEDIMENT MONITORING

9.0 Marine Sediments

The deep-sea ocean floor is made up of sediment. This sediment is composed of tiny particles such as fine sand, silt, clay, or animal skeletons that have settled on the ocean bottom. Over long periods of time, some of these particles become compressed and form stratified layers. Scientists that study these layers look at particle size, particle composition, and origin to help them create historical records of the deep ocean floor. This process is called weathering. Weathering can be either mechanical or chemical. Mechanical weathering can occur as ice, wind, or water wears away the rock's surface. Chemical weathering can occur as rocks are dissolved by a chemical such as acid rain. The particles created as a result of weathering are called terrigenous sediments. These particles are transported to the ocean by wind and by rivers and streams. Once the particles enter the ocean, they are dispersed by waves, currents, and tides. The heaviest and largest particles that reach the oceans, such as sand, settle very quickly to the bottom as a result of gravity. Sand is deposited near the coast whereas the smaller silt and clay particles are transported farther distances offshore before they settle to the bottom. Sediments are an important component of aquatic ecosystems because they provide nutrients and habitat for aquatic organisms (Benhamed et al. 2016). However, human activities result in accumulation of toxic substances such as heavy metals in marine sediments. Heavy metals are well-known environmental pollutants due to their toxicity, persistence in the environment, and bioaccumulation. Metals affect the ecosystem because they are not removed from water by self-purification, but accumulate in sediments and enter the food chain (Astakhov et al. 2015).

Sediment samples were collected with Van Veen Grab from the six locations in Kandla Port Waters and two locations in Vadinar Port. Benthic surface grab samplers look like giant metal jaws. They dig into the bottom and take a bite of the sediment. These samplers are good for collecting softer, sandy or silty sediments that do not contain rocks. A box corer is a cross between a surface sampler and a sediment corer. It is a special device that is used to collect an undisturbed sample of the very top surface layers and the sediment underneath. Samples were collected and preserved in silver foil in ice box to prevent the contamination/decaying of the samples.

10.1 Results

The Sediment Quality results are given in below from table no. 43 & 44.

Table 43: Results of Analysis of Sediment of Kandla & Vadinar Port (Neap Tide)

Sr. No.	Parameters	Unit	DPA – 1	DPA - 2	DPA - 3	DPA - 4	DPA - 5	Jetty	SPM
1	Texture	-	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	Organic Matter	mg/kg	1.32	0.6	0.1	0.1	0.16	1.14	1.59
3	Organic Carbon	mg/kg	0.76	0.35	0.07	0.06	0.09	0.66	0.91
4	Inorganic Phosphate	mg/kg	89.00	90.00	101.00	92.00	100.00	90.00	100.00
5	Moisture	%	3.90	2.37	4.12	3.00	4.10	3.40	4.00
6	Aluminum	mg/kg	ND	ND	ND	ND	ND	ND	ND
7	Silica	mg/kg	7.30	7.68	8.90	9.30	9.10	8.90	9.60
8	Phosphate	mg/kg	5.20	4.99	4.09	5.25	9.00	3.28	10.40
9	Sulphate	mg/kg	759.00	849.00	555.00	496.00	768.00	732.00	496.00
10	Nitrite	mg/kg	0.11	0.11	0.10	0.10	0.12	0.10	0.11
11	Nitrate	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
12	Calcium	mg/kg	2765.00	1523.00	861.00	961.00	981.00	1162.00	2485.00
13	Magnesium	mg/kg	1372.00	1300.00	1020.00	1263.00	1032.00	1089.00	2065.00
14	Sodium	mg/kg	2410.0	2760.0	2644.0	2940.0	2722.0	1394.00	1082.00
15	Potassium	mg/kg	404.00	459.00	390.00	510.00	447.00	811.0	560.0
16	Chromium	mg/kg	61.30	71.90	66.00	53.30	56.40	42.80	49.70
17	Nickel	mg/kg	26.80	31.70	29.00	23.00	24.10	13.80	29.20
18	Copper	mg/kg	17.40	19.40	17.80	15.50	15.80	13.80	47.10
19	Zinc	mg/kg	43.40	55.80	49.80	41.80	46.00	32.00	64.30
20	Cadmium	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
21	Lead	mg/kg	5.20	6.20	5.70	9.80	8.40	12.00	BQL
22	Mercury	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
23	Arsenic	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL

*ND - Not Detected, BQL: Below Quantification Limit (NO₃:10.0mg/kg, Cd: 1.0mg/kg, Hg: 1.0mg/kg, As: 1.0mg/kg).

Table 44 : Results of Analysis of Sediment of Kandla & Vadinar Port (Spring Tide)

Sr. No.	Parameters	Unit	DPA – 1	DPA - 2	DPA - 3	DPA - 4	DPA - 5	Jetty	SPM
1	Texture	-	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	Organic Matter	mg/kg	0.91	0.50	1.52	0.37	0.27	1.45	1.68
3	Organic Carbon	mg/kg	0.52	0.29	0.87	0.21	0.15	0.83	0.97
4	Inorganic Phosphate	mg/kg	98.00	90.00	80.00	78.00	100.00	88.00	90.00
5	Moisture	%	17.00	8.70	15.00	6.60	4.80	14.24	13.14
6	Aluminum	mg/kg	ND	ND	ND	ND	ND	ND	ND
7	Silica	mg/kg	7.20	8.26	9.02	5.50	7.80	9.20	10.02
8	Phosphate	mg/kg	7.87	9.29	6.16	5.75	9.49	11.61	10.80
9	Sulphate	mg/kg	745.00	862.00	585.00	490.00	510.00	590.00	396.00
10	Nitrite	mg/kg	0.11	0.12	0.12	0.11	0.10	0.10	0.11
11	Nitrate	mg/kg	BQL	BQL	12.00	16.6	26.2	BQL	BQL
12	Calcium	mg/kg	1723.00	1057.00	1320.00	1220.00	1390.00	1907.00	1643.00
13	Magnesium	mg/kg	1044.00	716.00	1090.00	690.00	896.00	1563.00	2320.00
14	Sodium	mg/kg	2733.00	2720.00	2578.00	2107.00	1558.00	1042.00	952.00
15	Potassium	mg/kg	302.00	332.00	378.0	357.0	87.8	384.00	325.00
16	Chromium	mg/kg	38.00	24.40	51.70	16.10	60.00	48.90	69.20
17	Nickel	mg/kg	15.60	9.50	21.70	6.00	24.70	19.70	28.30
18	Copper	mg/kg	7.80	BQL	11.30	31.40	16.40	12.10	19.90
19	Zinc	mg/kg	30.10	21.90	35.70	13.70	44.90	31.50	51.90
20	Cadmium	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
21	Lead	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
22	Mercury	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL
23	Arsenic	mg/kg	BQL	BQL	BQL	BQL	BQL	BQL	BQL

*ND - Not Detected, BQL: Below Quantification Limit (NO₃:10.0 mg/kg, Cd: 1.0 mg/kg, Hg: 1.0mg/kg, As: 1.0mg/kg)

9.2 Discussion of Marine Sediment samples

Marine Sediments of Deendayal Port Harbor waters, Khorī and Nakti Creeks and two locations of Vadinar are monitored for various physico-chemical parameters during spring and neap tide of each month. The Heavy metal analyzed and found below quantification limit.

9.3 Conclusion

The sediment types are majority Sandy loamy. Also maximum heavy metals parameters found below Quantification limit wise, Pb, Cd, Hg, As, Al was not Detected and Nitrate for some locations.

CHAPTER-11

MARINE ECOLOGICAL MONITORING

10.0 INTRODUCTION:

10.1 Sampling Stations:

The monitoring of marine environment for the study of biological and ecological Parameters was carried out on 01st November 2022 in harbour region of DPA at Kandla Creek, and on 02nd November 2022 in creeks near by the port during Neap tide. The monitoring of marine environment for the study of biological and ecological parameters was repeated again on 08th November, 2022 in harbour region of DPA at Kandla Creek and on 09th November, 2022 in creeks near by the port during spring tidal condition.

Plankton samples from sub surface layer was collected both during high tide period and low tide period from 3 water quality monitoring stations of DPA harbour area and two stations in Nakti creek and one station in Khori creek. Sampling at second sampling station of Nakti creek was possible only during high tide period.

Plankton samples from sub surface layer were collected during high tide period and low tide period from monitoring station near Vadinar Jetty at Path Finder Creek during Neap tide on 01/11/2022 and Spring tide period on 08/11/2022. Collected water samples were processed for estimation of Chlorophyll- a, Pheophytin- a, qualitative and quantitative evaluation of phytoplankton, qualitative and quantitative evaluation of zoo plankton density and their population.

TABLE 43. SAMPLING LOCATIONS

monitoring requirement	Number of locations
Kandla creek	3 in Kandla creek
Nakti creek	2 in Nakti creek
Khori Creek	1 in Khori creek
Vadinar jetty	1 near Vadinar Jetty
SPM	1 near I st SPM
Total Number of locations	8

Sampling methodology adopted:

A marine sampling is an estimation of the body of information in the population. The theory of the sampling design is depending upon the underlying frequency distribution of the population of interest. The requirement for useful water sampling is to collect a representative sample of suitable volume from the specified depth and retain it free from contamination during retrieval.

50 litres of the water sample were collected from Sub surface by using bucket. From the collected water sample 1 litres of water sample was taken in an opaque plastic bottle for chlorophyll estimation, thereafter plankton samples were collected by using filtration assembly with Nylobolt cloth of 20µm mesh size. . During low tide DPA-6 Nakti-II location monitoring was not possible due to non-availability of marine water.

Samples Processing for chlorophyll estimation:

Samples for chlorophyll estimation were preserved in ice box on board in darkness to avoid degradation in opaque container covered with aluminium foil. Immediately after reaching the shore after sampling, 1 litre of collected water sample was filtered through GF/F filters (pore size 0.45 µm) by using vacuum filtration assembly. After vacuum filtration the glass micro fiber filter paper was grunted in tissue grinder, macerating of glass fiber filter paper along with the filtrate was done in 90% aqueous Acetone in the glass tissue grinder with glass grinding tube. Glass fiber filter paper will assist breaking the cell during grinding and chlorophyll content was extracted with 10 ml of 90% Acetone, under cold dark conditions along with saturated magnesium carbonate solution in glass screw cap tubes. After an extraction period of 24 hours, the samples were transferred to calibrated centrifuge tubes and adjusted the volume to original volume with 90% aqueous acetone solution to make up the evaporation loss. The extract was clarified by using centrifuge in closed tubes. The clarified extracts were then decanted in clean cuvette and optical density was observed at wavelength 664, 665 nm. By using corrected optical density, Chlorophyll-a value was calculated as given in (APHA, 2017).

PLANKTON:

The entire area open water in the sea is the pelagic realm. Pelagic organisms live in the open sea. In contrast to the pelagic realm, the benthic realm comprises organisms and zone of the bottom of the sea. Vertically the pelagic realm can be dividing into two zones based on light penetration; upper photic or euphotic zone and lower dark water mass, aphotic zone below the photic zone.

The term plankton is a general term for organisms which have such limited powers of locomotion that they are at the mercy of the prevailing water movement. Plankton is subdivided to phytoplankton and zooplankton. Phytoplanktons are free floating organisms that are capable of photosynthesis and zooplankton is the various free-floating animals.

Pelagic zone, represents the entire ocean water column from the surface to the deepest depths, is home to a diverse community of organisms. Differences in their locomotive ability categorize the organisms in the pelagic realm into two, *plankton* and *nekton* (Lalli and Parsons, 1997). *Plankton* consists of all organisms drifting in the water and is unable to swim against water currents, whereas *Nekton* includes organisms having strong locomotive power. Ecological studies on the plankton community, which form the base of the aquatic food chain, help in the better understanding of the dynamics and

functioning of the marine ecosystem. The term 'Plankton' first coined by Victor Hensen (1887), Plankton, (Greek word: *planktos* meaning "passively drifting or wandering") is defined as drifting or free-floating organisms that inhabit the pelagic zone of water. Based on their mode of nutrition planktonic organisms are categorised into phytoplankton (organisms having an autotrophic mode of nutrition) and zooplankton (organisms having a heterotrophic mode of nutrition).

Phytoplankton in the marine environment:

Phytoplanktons are free floating unicellular, filamentous and colonial eutrophic organisms that grow in aquatic environments whose movement is more or less dependent upon water currents. These micro flora acts as primary producers as well as the basis of food chain, source of protein, bio-purifier and bio-indicators of the aquatic ecosystems of which diverse array of the life depends .They are considered as an important component of aquatic flora, play a key role in maintaining equilibrium between abiotic and biotic components of aquatic ecosystem.

The phytoplankton includes a wide range of photosynthetic and phototrophic organisms. Marine phytoplankton is mostly microscopic and unicellular floating flora, which are the primary producers that support the pelagic food-chain. The two most prominent groups of phytoplankton are Diatoms (Bacillariophyceae) and Dinoflagellates (Dinophyceae). The phytoplankton those normally captured in the net from the Gulf of Kutch is normally dominated by these two major groups; Diatoms and Dinoflagellates. Phytoplankton also include numerous and diverse collection of extremely small, motile algae which are termed micro flagellates (naked flagellates) as well as and Cyanophytes (Blue-green algae).

Algae are an ecologically important group in most aquatic ecosystems and have been an important component of biological monitoring programs. Algae are ideally suited for water quality assessment because they have rapid reproduction rates and very short life cycles, making them valuable indicators of short-term impacts.

Aquatic populations are impacted by anthropogenic stress, resulting in a variety of alterations in the biological integrity of aquatic systems. Algae can serve as an indicator of the degree of deterioration of water quality, and many algal indicators have been used to assess environmental status.

Zooplankton in the marine environment:

Zooplankton includes a taxonomically and morphologically diverse community of heterotrophic organisms that drift in the waters of the world's oceans. Qualitative and quantitative studies on zooplankton community are a prerequisite to delineate the ecological processes active in the marine ecosystem. Zooplankton community plays a pivotal role in the pelagic food web as the primary consumers of phytoplankton and act as the food source for organisms in the higher trophic levels, particularly the economically essential groups such as fish larvae and fishes. They also function in the cycling of elements in the marine ecosystem. The dynamics of the zooplankton community, their reproduction, and growth and survival rate are all significant factors determining the recruitment and

abundance of fish stocks as they form an essential food for larval, juvenile and adult fishes (Beaugrand et al., 2004). Zooplankton grazing in the marine environment controls the primary Production and helps in determining the pelagic ecosystem (Banse, 1995). Through grazing in surface waters and following the production of sinking faecal matters and also by the active transportation of dissolved and particulate matter to deeper waters via vertical migration, they help in the transport of organic carbon to deep ocean layers and thus act as key drivers of 'biological pump' in the marine ecosystem. Zooplankton grazing and metabolism also, transform particulate organic matter into dissolved forms, promoting primary producer community, microbial demineralization, and particle export to the ocean's interior.

The categorisation of zooplankton into various ecological groups is based on several factors such as duration of planktonic life, size, food preferences and habitat. As they vary significantly in size from microscopic to metazoic forms, the classification of zooplankton based on size has paramount importance in the field of quantitative plankton research.

Based on the duration of planktonic life, zooplankton are categorised into Holoplankton (organisms which complete their entire lifecycle as plankton) and Meroplankton (organisms which are planktonic during the early part of their lives such as the larval stages of benthic and nektonic organisms). Tychoplankton are organisms which live a brief planktonic life, such as the benthic crustaceans (Cumaceans, mysids, isopods) which ascend to the water column at night for feeding and certain ectoparasitic copepods, they leave the host and spend their life as plankton during their breeding cycle.

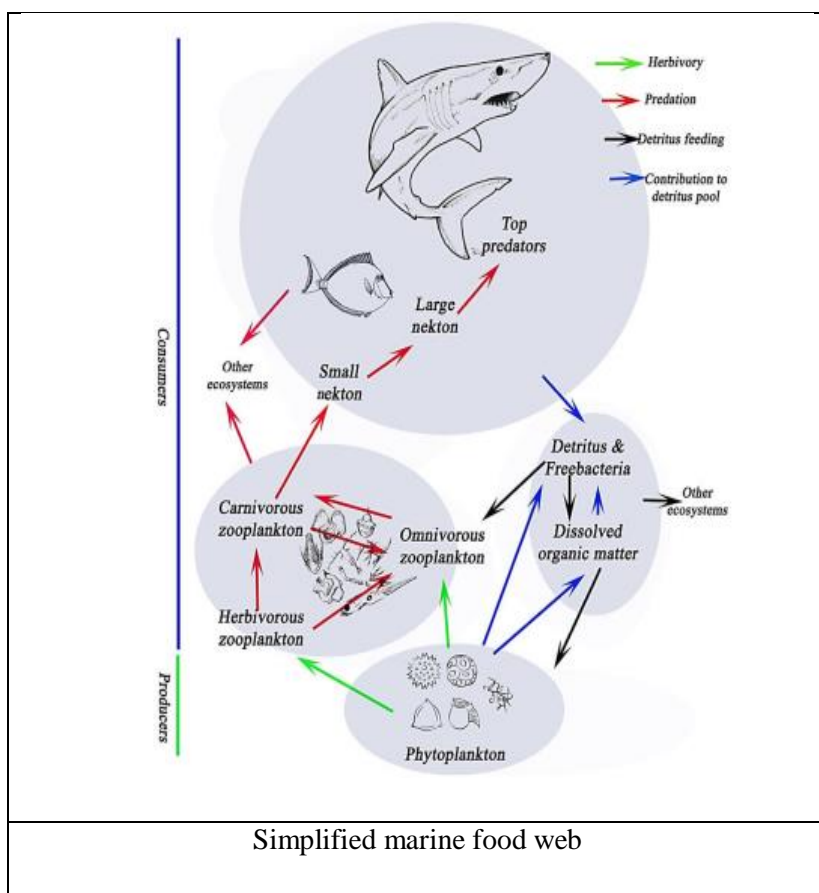
Zooplankton can be subdivided into holoplankton, i.e., permanent members of the plankton (e.g., Calanoid copepods), and meroplankton, i.e., temporary members in the plankton e.g., larvae of fish, shrimp, and crab). The meroplankton group consists of larval and young stages of animals that will adopt a different lifestyle once they mature. In contrast to phytoplankton which consist of a relatively smaller variety of organisms, Zooplankton are extremely divers, consist of a host of larval and adult forms representing many animal phylum.

Among the zooplankton one group always dominate than others; members of sub class copepods (Phylum Athropoda) and Tintinids (Phylum Protozoa) among the net planktons. These small animals are of vital importance in marine ecosystem as one of the primary herbivores animals in the sea, and it is they provide vital link between primary producer (autotrophs) and numerous small and large marine consumers.

As their community structure and function are highly susceptible to changes in the environmental conditions regular monitoring of their distribution as well as their interactions with various physicochemical parameters is inevitable for the sustainable management of the ecosystem (Kusum et al., 2014). Of all the marine zooplankton groups, copepods mainly Calanoid copepods are the

dominant groups in marine subtropical and tropical waters and exhibit considerable diversity in morphology and habitats they occupy (Madhupratap, 1991 ;)

It has been well established that potential of pelagic fishes viz. finfishes, crustaceans, molluscs and marine mammals either directly or indirectly depend on zooplankton. The herbivorous zooplanktons are efficient grazers of the phytoplankton and are referred to as living machines transforming plant material into animal tissue. Hence they play an essential role as the intermediaries for nutrients/energy transfer between primary and tertiary trophic levels. Due to their large density, shorter lifespan, drifting nature, high group/species diversity and different tolerance to the stress, they used as the indicator organisms for the physical, chemical and biological processes in the aquatic ecosystem (Ghajibhiye, 2002).



Spatial distribution of Plankton:

A characteristic of plankton population is that they tend to occur in patches, which are varying spatially on a scale of few meters to far as few kilo metres in distance. They also vary in time scale, season as well as vertically in the water column. It is this patchiness and its constant changes in time and spot, that has made it so difficult for plankton biologist to learn about the ecology of plankton. The biological factors that causes this patchiness is due to the ability of zooplankton to migrate vertically and graze out the phytoplankton at a rapid rate that can create patchiness. Similarly the active swimming ability by certain zooplankton organisms can cause to aggregate in dense group.

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At its most extreme, because the water in which plankton is suspended is constantly moving, each sample taken by the plankton biologists remain a different volume of water, so each sample is unique and replicate does not exist.

Plankton in the month of November also exhibit vertical patchiness. Physical factors contribute to this type of patchiness include light intensity, nutrients and density gradients in the water column.

Phytoplankton in particular tends to be unequally distributed vertically, which leads to the existence of different concentration of a chlorophyll value between photic zone and below the photic zone.

Methodology adopted for Plankton sampling:

Preservation and storage:

Both filtered plankton and those collected from the plankton net were preserved with 5% buffered formalin and stored in 1L plastic container for further processing in the laboratory.

Sample concentration:

The collected plankton samples were concentrated by using centrifuge and made up to 50 ml with 5% formalin -Glycerine mixture.

Taxonomic evaluation:

Before processing, the sample was mixed carefully and a subsample was taken with a calibrated Stempel-pipette. 1 ml of the concentrated plankton samples were transferred on a glass slide with automatic pipette. The plankton sample on the glass slides were stained by using Lugol's iodine and added glycerin to avoid drying while observation. The plankton samples were identified by using Labex triangular Research microscope with photographic attachment. Microphotographs of the plankton samples were taken for record as well as for confirming the identification. The bigger sized zooplankton was observed through dissecting stereomicroscope with magnification of 20-30 x. Plankton organisms in the whole slide were identified to the lowest taxon possible. A thorough literature search was conducted for the identification of the different groups of phytoplankton and zooplankton that were encountered

Cell counts by drop count method:

The common glass slide mounted with a 1ml of concentrated phytoplankton/zooplankton sample in glycerol and covered with cover slip 22 mm x 60 mm was placed under the compound microscope provided with a mechanical stage. The plankton was then counted from the microscopic field of the left top corner of the slide. Then slide is moved horizontally along the right side and plankton in each microscopic field was thus counted. When first microscopic field row was finished the next consecutive row was adjusted using the mechanical device of the stage. In this way all the plankton present in entire microscopic field are counted. From this total number in 1ml of the concentrated plankton, total amount of phytoplankton in the original volume of sample filtered was calculated as units/L and Zooplankton as N/m^3 .

BENTHIC ORGANISMS:

Benthos is those organisms that are associated with the sea bed or benthic habitats. Epi- benthic organisms live attached to a hard substratum or rooted to a shallow depth below the surface. In fauna organisms live below the sediment–water interface. Interstitial organisms live and move in pore water among sedimentary grains.

Because the benthic organisms are often collected and separated on sieves, a classification based on the overall size is used. Macro benthos include organisms whose shortest dimension is greater than or equal to 0.5 mm. Meio benthos are smaller than 0.5mm but larger than 42 μ in size.

The terms such as macro fauna and Meio fauna generally have little relevance with taxonomic classification. The terms Meio fauna and macro fauna depend on the size. Meio fauna were considered as good bioassay of community health and rather sensitive indicators of environmental changes

SAMPLING METHODOLOGY ADOPTED FOR SUB TIDAL REGION:

Van veen sampler (0.09m²) was used for sampling bottom sediments. Two sets of sediments were sampled from each location, one for macro fauna and other for Meio fauna. The macro fauna in the sediments were sieved on board to separate out the organisms. The fixation of Meio fauna is normally done by bulk fixation of the sediment sample. The bulk fixation is done by using 10% formalin (Buffered with borate). The organisms were preserved with seawater as diluting agent.

Sample sieving:

Sediments samples were sieved to extract the organisms. Sieving was performed carefully as possible to avoid any damage to the animals. The large portion of the sediment was split in to smaller portions and mixed with sea water in a bucket. The cohesive lumps were broken down by continuous stirring. The disaggregated sediments were then passed through the sieves.

Sample staining:

Sorting of the Meio fauna from the sieve is difficult task especially in the preserved material, because organisms are not easily detectable. To facilitate the animal detection the entire sample retained on the sieve after sieving operation were stained by immersing the sieve in a flat bottom tub with 1% Rose Bengal stain; a protein stain. A staining period of 10-30 minutes is sufficient for sample detection.

DIVERSITY INDICES:

On the whole, diversity indices provide more information about community composition than simply species richness (number of species present); they also, take the relative abundances of different species into account. Based on this fact, diversity indices therefore depend not only on species richness but on the evenness, or equitability, with which individuals are distributed among the different species (Magurram, A. E. (1988)

A diversity index is a measure of species diversity within a community that consists of co-occurring populations of several (two or more) different species. It includes two components: richness and evenness. Richness is the measure of the number of different species within a sample showing that more the types of species in a community, the higher is the diversity or greater is the richness. Evenness is the measure of relative abundance of the different species within a community.

The basic idea of diversity index is to obtain a quantitative estimate of biological variability that can be used to compare biological entities composed of discrete components in space and time (Carol H. R. *et al.* 1998). Biodiversity is commonly expressed through indices based on species richness and species abundances (Whittaker 1972, Lande 1996, Purvis and Hector 2000). Biodiversity indices are a non-parametric tool used to describe the relationship between species number and abundance. The most widely used bio diversity indices are Shannon Weiner index and Simpson's index.

A diversity Index is a single statistic that incorporates information on richness and evenness. Any study intended to interpret causes and effect of adverse impact on Biodiversity of communities require suitable measures to evaluate specie richness and Diversity. The former is number of species in community, while latter is a function of relative frequency of different species. Species richness is the iconic measure of biological diversity (Magurran, 2004). Several indices have been created to measure the diversity of species; however, the most widely used in the last decades are the Shannon (1948) and Simpson (1949) (Buzas and Hayek 1996; Gorelick 2006), with the components of diversity: richness (*S*) and evenness (*J*)

Simpson's diversity index

Simpson's index (**D**) is a measure of diversity, which takes into account both species richness, and evenness of abundance among the species present. The Simpson index is one of the meaningful and robust biodiversity measures available. (Magurran, 2004).

The formula for calculating D is presented as:

$$D = \frac{\sum n_i(n_i - 1)}{N(N - 1)}$$

Where n_i = the total number of organisms of each individual species

N = the total number of organisms of all species

The value of D ranges from 0 to 1. With this index, 0 represents infinite diversity and, 1, no diversity. When D increases diversity decreases. Simpson's index is therefore usually expressed as 1-D or 1/D. (Magurran, 2004)

Low species diversity suggests:

- relatively few successful species in the habitat
- the environment is quite stressful with relatively few ecological niches and only a few organisms are really well adapted to that environment

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- food webs which are relatively simple
- change in the environment would probably have quite serious effects

High species diversity suggests:

- a greater number of successful species and a more stable ecosystem
- more ecological niches are available and the environment is less likely to be hostile complex food webs
- environmental change is less likely to be damaging to the ecosystem as a whole

Species richness indices

The species richness(S) is simply the number of species present in an ecosystem. Species richness Indices of species richness are widely used to quantify or monitor the effects of anthropogenic disturbance. A decline in species richness in may be concomitant with severe or chronic human-induced perturbation (Fair Fair weather 1990) Species richness measures have traditionally been the mainstay in assessing the effects of environmental degradation on the biodiversity of natural assemblages of organisms (Clarke & Warwick, 2001)

Species richness is the iconic measure of biological diversity (Magurran, 2004). The species richness(S) is simply the number of species present in an ecosystem. This index makes no use of relative abundances. The term species richness was coined by Mc Intosh (1967) and oldest and most intuitive measure of biological diversity (Magurran, 2004).

Margalef's diversity index is a species richness index. Margalef's Species richness index (d), or indices that describe the evenness of the distribution of the numbers of individuals among species, were derived.

The value of a diversity index increases both when the number of types increases and when evenness increases. For a given number of types, the value of diversity index is maximised when all types are equally abundant [Rosenzweig, M. L. (1995)]

Shannon-Wiener's index:

An index of diversity commonly used in plankton community analyses is the Shannon-Wiener's index (H), which emphasizes not only the number of species (richness or variety), but also the apportionment of the numbers of individuals among the species (Odum 1971 and Reish 1984). Shannon-Wiener's index (H) reproduces community parameters to a single number by using an equation.

Shannon and Weiner index represents entropy. It is a diversity index taking into account the number of individuals as well as the number of taxon. It varies from 0 for communities with only single taxa to high values for community with many taxon each with few individuals. This index can also determine the pollution status of a water body. Normal values range from 0 to 4. This index is a combination of species present and the evenness of the species. Examining the diversity in the range

of polluted and unpolluted ecosystems, Wilham and Dorris (1968) concluded that the values of the index greater than

3 indicate clean water, values in the range of 1 to 3 are characterized by moderate pollution and values less than 1 are characterized as heavily polluted

10.2:- RESULTS:

CHLOROPHYLL-a:

$$H' = - \sum_{j=1}^s \frac{n_j}{N} \ln \left(\frac{n_j}{N} \right)$$

In the sub surface water chlorophyll-a was varying from 0.472-0.969 mg/m³ with an average value 0.645 mg/m³ in harbour region of DPA in Kandla Creek during sampling done in spring tide period of November 2022. In the nearby creeks chlorophyll-a was varying from 0.359-0.717 mg/m³ with an average value 0.552 mg/m³ Pheophytin –a level was below detectable limit- the all the sampling stations during springtide. Even though the plankton diversity and abundance were more during the spring tide sampling, the chlorophyll-content was detected lesser than expected because, the phytoplankton communities were mainly represented by diatoms *Skeletonema* sp. *Coscinodiscus* sp. and *Chaetoceros* sp.

In the sub surface water chlorophyll-a was varying from 0.338-0.547 mg/m³ with an average value 0.437 mg/m³ in harbour region of DPA in Kandla Creek during sampling done in Neap tide period of November 2022. In the nearby creeks chlorophyll-a was varying from 0.205- 0.440mg/m³ with an average value 0.370 mg/m³. Pheophytin–a level was below detectable limit- the all the sampling stations. During neap tide sampling phytoplankton communities were mainly represented by *Coscinodiscus* sp. and *Ditylum* sp.

In the sub surface water chlorophyll-a was varying from 0.598-0.968 mg/m³ in harbour region of DPA OOT in path finder Creek during sampling done in spring tide period of November 2022. In the sub surface water chlorophyll-a was varying from 0.709 - 0.987mg/m³ in harbour region of DPA OOT in path finder Creek during sampling done in Neap Tide period of November 2022

TABLE:-45 VARIATIONS IN CHLOROPHYLL-a PHEOPHYTIN-a AND ALGAL BIOMASS FROM SAMPLING STATIONS IN DPA HARBOUR AREA IN KANDLA CREEK ,NEAR BY CREEKS AND DPA OOT JETTY IN PATH FINDER CREEK AND SPM NEAR VADINAR DURING SPRING TIDE IN NOVEMBER 2022

Sr. No.	Station	Tide	Chlorophyll-a (mg/m ³)	Pheophytin- a (mg/m ³)	Algal Biomass (Chlorophyll method) mg/m ³
DPA HARBOUR AREA KANDLA CREEK					
1	KPT1	High tide	0.969	BDL	64.92
		Low tide	0.647	BDL	43.35
2	KPT 2	High tide	0.511	BDL	34.24
		Low tide	0.521	BDL	34.91
3	KPT 3	High tide	0.749	BDL	50.18
		Low tide	0.472	BDL	31.62
CREEKS					
4	KPT-4 Khor-I	High tide	0.638	BDL	42.75
		Low tide	0.359	BDL	24.05
5	KPT-5 Nakti-I	High tide	0.717	BDL	48.04
		Low tide	0.493	BDL	33.03
6	KPT-6 Nakti-II	High tide	ND	ND	ND
PATHFINDER CREEK VADINAR					
7	VADINAR-I jetty	High tide	0.968	BDL	64.86
8		Low tide	0.732	BDL	49.04
9	SPM	High tide	0.953	BDL	63.85
10		Low tide	0.598	BDL	

BDL: Below Detectable Limit., ND: Not detected

TABLE:-46. VARIATIONS IN CHLOROPHYLL-a PHEOPHYTIN-a AND ALGAL BIOMASS FROM SAMPLING STATIONS IN DPA HARBOUR AREA, NEAR BY CREEKS AND DPA OOT JETTY IN PATH FINDER CREEK AND SPM NEAR VADINARDURING NEAP TIDE IN NOVEMBER 2022

Sr.No.	Station	Tide	Chlorophyll-a (mg/m ³)	Pheophytin- a (mg/m ³)	Algal Biomass (Chlorophyll method) mg/m ³
DPA HARBOUR AREA KANDLA CREEK					
1	KPT1	High tide	0.547	BDL	
		Low tide	0.450	BDL	
2	KPT 2	High tide	0.338	BDL	
		Low tide	0.409	BDL	
3	KPT 3	High tide	0.354	BDL	
		Low tide	0.523	BDL	
CREEKS					
4	KPT-4 Khor-I	High tide	0.440	BDL	
		Low tide	0.408	BDL	
5	KPT-5 Nakti-I	High tide	0.205	BDL	
		Low tide	0.426	BDL	
6	KPT-6 Nakti-II	High tide	ND	ND	ND
PATHFINDER CREEK VADINAR					
7	VADINAR-I jetty	High tide	0.799	BDL	
8		Low tide	0.709	BDL	
9	SPM	High tide	0.857	BDL	
10		Low tide	0.987	BDL	

BDL: Below Detectable Limit.ND: Not detected

PHYTOPLANKTON POPULATION:

For the evaluation of the Phytoplankton population in DPA harbour area and within the immediate surroundings of the port, sampling was conducted from 5 sampling locations (3 in harbour area and two in Nakti creek) during high tide period and low tide period of spring tide and neap tide.

The phytoplankton community of the sub surface water in the harbour and nearby creeks was represented by, Diatoms, blue green algae and Dinoflagellates during spring tide period. Diatoms were represented by 26 genera, Blue green algae were represented by 2 genera and Dinoflagellates were represented by 6 genera during the sampling conducted in spring tide in November, 2022. Phytoplankton of the sampling stations at sub surface layer in the harbour area and nearby creeks was varying from 39-243units/ L during high tide period and 115-199 units/L during low tide of Spring Tide. During spring tide sampling phytoplankton communities were dominated by *Skeletonema* sp almost forming a bloom in the Kandla creek and other nearby creek area and abundant population of *Coscinodiscus* sp. and *Chaetoceros* sp.

The phytoplankton community of the sub surface water in the harbour and nearby creeks was represented by Diatoms, Blue green algae and Dinoflagellates during Neap tide period. Diatoms were represented by 24 genera, Blue green algae were represented 2 genera and Dinoflagellates with 5 genera during the sampling conducted in Neap tide in November, 2022. Phytoplankton of the sampling stations at sub surface layer in the harbour area and nearby creeks was varying from 43-299 units/ L during high tide period and 143-193 units/L during low tide of Neap Tide. During Neap tide sampling phytoplankton communities were dominated by, *Ditylum* sp and *Coscinodiscus* sp.

For the evaluation of the Phytoplankton population in DPA OOT jetty area in Path Finder creek sampling was conducted from two sampling locations; Jetty area and SPM area during high tide period and low tide of spring tide and Neap tide period.

The phytoplankton community of the sub surface water in the path finder creeks was represented by Diatoms, Blue green algae and Dinoflagellates during spring tide period. Diatoms were represented by 25 genera, Blue Green algae by 5 genera and Dinoflagellates by 6 genera during the sampling conducted in spring tide in November, 2022. Phytoplankton of the sampling stations at sub surface path finder creek near OOT Jetty area was 209 units/L during high tide period and 177 units/L during low tide of Spring Tide. Phytoplankton of the sampling stations at sub surface layer in the SPM area was varying from 206 units/ L during high tide period and 131 units/ L during low tide of Spring Tide.

The phytoplankton community of the sub surface water in the path finder creeks was represented by Diatoms, Blue green and Dinoflagellates during Neap tide period. Diatoms were represented by 32 genera and Blue green algae by 4 genera and Dinoflagellates by 6 genera during the sampling conducted in Neap tide in November, 2022. Phytoplankton of the sampling stations at sub surface path finder creek near OOT Jetty was varying from 244units/ L during high tide period and 200

units/L during low tide of Neap Tide. Phytoplankton of the sampling stations at sub surface path finder creek near SPM area was varying from 259 units/L during high tide period and 294 units/L during low tide of Neap Tide.

Species Richness Indices and Diversity Indices:

Margalef's diversity index (Species Richness)

Margalef's diversity index (Species Richness) of phytoplankton communities in the Kandla creek and nearby creeks sampling stations was varying from 2.184- 4.688 with an average of 3.346 during the sampling conducted in High tide period of spring tide. While Margalef's diversity index (Species Richness) S of phytoplankton communities in the Kandla creek region and nearby creeks was varying from 1.963- 3.589 with an average of 2.835 during the consecutive low tide period.

Margalef's diversity index (Species Richness) of phytoplankton communities in the stations in Kandla creek and nearby creeks was varying from 2.393-4.279 with an average of 3.586 during the sampling conducted in High tide period of Neap tide. While Margalef's diversity index (Species Richness) of phytoplankton communities in the Kandla creek region and nearby creeks was varying from 2.821- 3.86 with an average of 3.357 during consecutive low tide.

Margalef's diversity index (Species Richness) S of phytoplankton communities in the stations was 4.867 at OOT jetty area and 4.129 at SPM area during the sampling conducted in High tide period of spring tide. While Margalef's diversity index (Species Richness) S of phytoplankton communities in the path finder creek near OOT jetty was 4.443 and 3.692 at SPM during the consecutive low tide period.

Margalef's diversity index (Species Richness) of phytoplankton communities in the stations was 4.73 at OOT jetty area and 4.139 at SPM area during the sampling conducted in High tide period of Neap tide. While Margalef's diversity index (Species Richness) of phytoplankton communities in the path finder creek near OOT jetty was 4.152 and SPM area was 5.454 during the consecutive low tide period.

Shannon-Wiener's index:

Shannon-Wiener's Index (H) of phytoplankton communities in the sampling stations was in the range of 0.786- 1.034 between selected sampling stations with an average value of 0.925 during high tide period of spring tide at Kandla creek and nearby creeks. Shannon-Wiener's Index (H) of phytoplankton communities in the sampling stations was in the range of 0.790-0.915 between selected sampling stations with an average value of 0.855 during consecutive low tide at Kandla creek and nearby creeks.

Shannon-Wiener's Index (H) of phytoplankton communities in the sampling stations was in the range of 0.867–1.022 between selected sampling stations with an average value of 0.932 during high tide period of neap tide at Kandla creek and nearby creeks. Shannon-Wiener's Index (H) of phytoplankton

communities in the sampling stations was in the range of 0.926- 1.001 between selected sampling stations with an average value of 0.951 during consecutive low tide at Kandla creek and nearby creeks. Shannon-Wiener's Index (H) of phytoplankton communities in the stations was 1.037 at OOT jetty area and 0.946 at SPM area during the sampling conducted in High tide period of spring tide. While Shannon-Wiener's Index (H) of phytoplankton communities in the path finder creek near OOT jetty was 1.043 and 0.982 at SPM during the consecutive low tide period of spring tide.

Shannon-Wiener's Index (H) of phytoplankton communities in the stations was 0.998 at OOT jetty area and 1.035 at SPM area during the sampling conducted in High tide period of Neap tide. While Shannon-Wiener's Index (H) of phytoplankton communities in the path finder creek near OOT jetty was 0.942 and at SPM area was 1.036 during the consecutive low tide period.

Typical values are generally between 1.5 and 3.5 in most ecological studies, and the index is rarely greater than 4. The Shannon-Wiener's index increases as both the richness and the evenness of the community increase. This result indicates that diversity of phytoplankton of Kandla Harbour region and nearby creeks is less but with abundant population of few, with relatively few ecological niches and only very few opportunist organisms are really well adapted to this environment and thrive better than other species.

Simpson's diversity index:

Simpson diversity index (1-D) of phytoplankton communities was below 0.9 at all sampling stations in the Kandla Harbour region and nearby creeks, which was varying from 0.778-0.851 between selected sampling stations with an average of 0.823 during high tide period of spring tide. Simpson diversity index (1-D) of phytoplankton communities was below 0.9 at all sampling stations in the Kandla Harbour region and nearby creeks except few, which was varying from 0.787-0.842 between selected sampling stations with an average of 0.814 during consecutive low tide.

Simpson diversity index (1-D) of phytoplankton communities was below 0.9 at all sampling stations except few in Kandla Harbour region and nearby creeks, during high tide period and low tide period during Neap tide also, which was varying from 0.813-0.874 with an average value of 0.847 between selected sampling stations during high tide period and 0.840-0.871 varying from with an average value of 0.858 between selected sampling stations during consecutive low tide period. Low species diversity suggests a relatively few successful species in this habitat.

Simpson diversity index (1-D) of phytoplankton communities in the stations was 0.863 at OOT jetty area and 0.820 at SPM area during the sampling conducted in High tide period of spring tide at Path finder creek. While Simpson diversity index (1-D) of phytoplankton communities in the path finder creek near OOT jetty was 0.876 and 0.867 at SPM during the consecutive low tide period in the path finder creek.

Simpson diversity index (1-D) of phytoplankton communities in the stations was 0.838 at OOT jetty area and 0.881 at SPM area during the sampling conducted in High tide period of Neap tide at Path

finder Creek. While Simpson diversity index (1-D) of phytoplankton communities in the path finder creek near OOT jetty was 0.832 and at SPM area was 0.867 during the consecutive low tide period.

Table:-47 4PHYTOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND , NEAR BY CREEKS DURING SPRING TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In units/L	No of Species observed /total species	% Of diversity	Margalef's diversity index (Species Richness)	Shannon Weiner index H (log ₁₀)	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	1	207	26/34	76.47	4.688	1.034	0.8511
	2	183	22/34	64.71	4.031	1.005	0.8437
	3	193	13/34	38.24	2.28	0.811	0.7778
	4	243	18/34	52.94	3.095	0.9391	0.8192
	5	193	21/34	61.76	3.8	0.9777	0.8281
	6	39	9/34	26.47	2.184	0.786	0.8178
LOW TIDE	1	178	14/34	41.18	2.509	0.8042	0.787
	2	199	20/34	58.82	3.589	0.8982	0.8075
	3	115	14/34	41.18	2.74	0.8696	0.8365
	4	154	18/34	52.94	3.375	0.915	0.8416
	5	163	11/34	32.35	1.963	0.7895	0.7957

Table:-48 PHYTOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND NEAR BY CREEKS DURING NEAP TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In units/L	No of Species observed /total species	% of diversity	Margalef's diversity index (Species Richness)	Shannon Weiner index H (log ₁₀)	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	1	216	24/31	77.42	4.279	0.98	0.8568
	2	229	22/31	70.97	3.865	0.958	0.853
	3	228	22/31	70.97	3.868	1.022	0.8743
	4	299	23/31	74.19	3.859	0.8667	0.8127
	5	254	19/31	61.29	3.251	0.8929	0.8307
	6	43	10/31	32.26	2.393	0.8712	0.8571
LOW TIDE	1	183	18/31	58.06	3.263	0.9504	0.8636
	2	143	15/31	48.39	2.821	0.946	0.8666
	3	178	21/31	67.74	3.86	1.001	0.8708
	4	193	19/31	61.29	3.42	0.931	0.84
	5	193	19/31	61.29	3.42	0.9259	0.8469

Table:-49 ABUNDANCE OF PHYTOPLANKTON SUBSURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND, NEAR BY CREEKS DURING SPRING TIDE IN NOVEMBER2022

Tide	Surface	No of Sampling location	Group of phytoplankton	Phytoplankton Group range Units/L	Genera or species /total Phyto plankton	Species Composition % (Group level)
HIGH TIDE	Sub surface	6	BLUE GREEN ALGAE	0-8	2/34	5.88
			DIATOMS	38-238	26/34	76.47
			DINOFLAGELLATES	0-11	6/34	17.65
			TOTAL PHYTO PLANKTON	39-243	34	
LOW TIDE	Sub surface	5	BLUE GREEN ALGAE	1-6	2/34	5.88
			DIATOMS	110-190	26/34	76.47
			DINOFLAGELLATES	1-7	6/34	17.65
			TOTAL PHYTO PLANKTON	115-199	34	

TABLE:-50 ABUNDANCE OF PHYTOPLANKTON SUBSURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND, NEAR BY CREEKS DURING NEAP TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling location	Group of phytoplankton	Phytoplankton Group range Units/L	Genera or species /total Phyto plankton	Species Composition % (Group level)
HIGH TIDE	Sub surface	6	BLUE GREEN ALGAE	0-6	2/31	6.45
			DIATOMS	43-293	24/31	77.42
			DINOFLAGELLATES	0-9	5/31	16.13
			TOTAL PHYTO PLANKTON	43-299	31	
LOW TIDE	Sub surface	5	BLUE GREEN ALGAE	2-6	2/31	6.45
			DIATOMS	133-186	24/31	77.42
			DINOFLAGELLATES	3-8	5/31	16.13
			TOTAL PHYTO PLANKTON	143-193	31	

TABLE:-51 PHYTOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA OOT AT PATH FINDER CREEK , VADINAR & NEAR BY SPM, DURING SPRING TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In units/L	No of Species observed /total species	% of diversity	Margalef's diversity index (Species Richness S)	Shannon Weiner index H (log ₁₀)	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	Jetty	209	27/36	75.00	4.867	1.037	0.863
	SPM	206	23/36	63.89	4.129	0.946	0.820
LOW TIDE	Jetty	177	24/36	66.67	4.443	1.043	0.876
	SPM	131	19/36	52.78	3.692	0.982	0.867

TABLE:-52 PHYTOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA OOT AT PATH FINDER CREEK , VADINAR & NEAR BY SPM, DURING NEAP TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In units/L	No of Species observed /total species	% of diversity	Margalef's diversity index (Species Richness)	Shannon Weiner index H (log ₁₀)	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	Jetty	244	27/42	64.29	4.73	0.998	0.838
	SPM	259	24/42	57.14	4.139	1.035	0.881
LOW TIDE	Jetty	200	23/42	54.76	4.152	0.942	0.832
	SPM	294	32/42	76.19	5.454	1.036	0.867

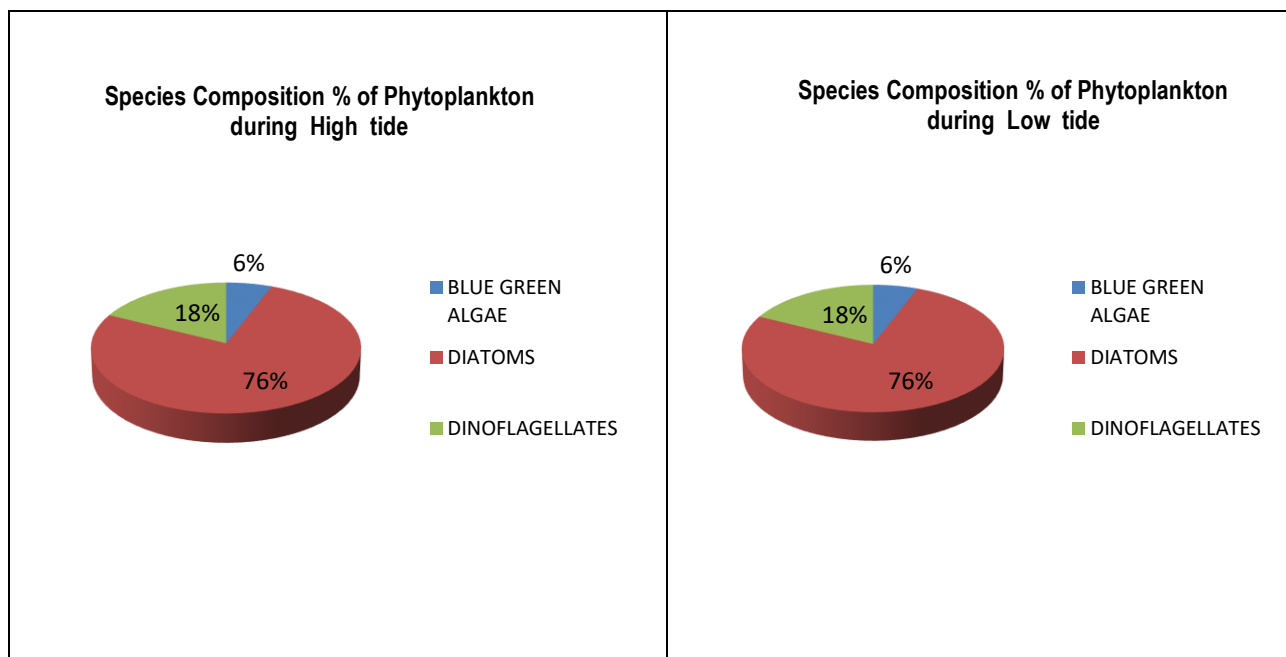
TABLE:-53 ABUNDANCE OF PHYTOPLANKTON SUBSURFACE SAMPLING STATIONS IN DPAOOT AT PATH FINDER CREEK, VADINAR & NEAR BY SPM, DURING SPRING TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling location	Group of phytoplankton	Phytoplankton Group range Units/L	Genera or species /total Phyto plankton	Taxon Diversity % (Group level)
HIGH TIDE	Sub surface	2	BLUE GREEN ALGAE	14-20	5/36	13.89
			DIATOMS	180-192	25/36	69.44
			DINOFLAGELLATES	3-6	6/36	16.67
			TOTAL PHYTO PLANKTON	206-209	36	
LOW TIDE	Sub surface	2	BLUE GREEN ALGAE	12-19	5/36	13.89
			DIATOMS	118-156	25/36	69.44
			DINOFLAGELLATES	1-2	6/36	16.67
			TOTAL PHYTO PLANKTON	131-177	36	

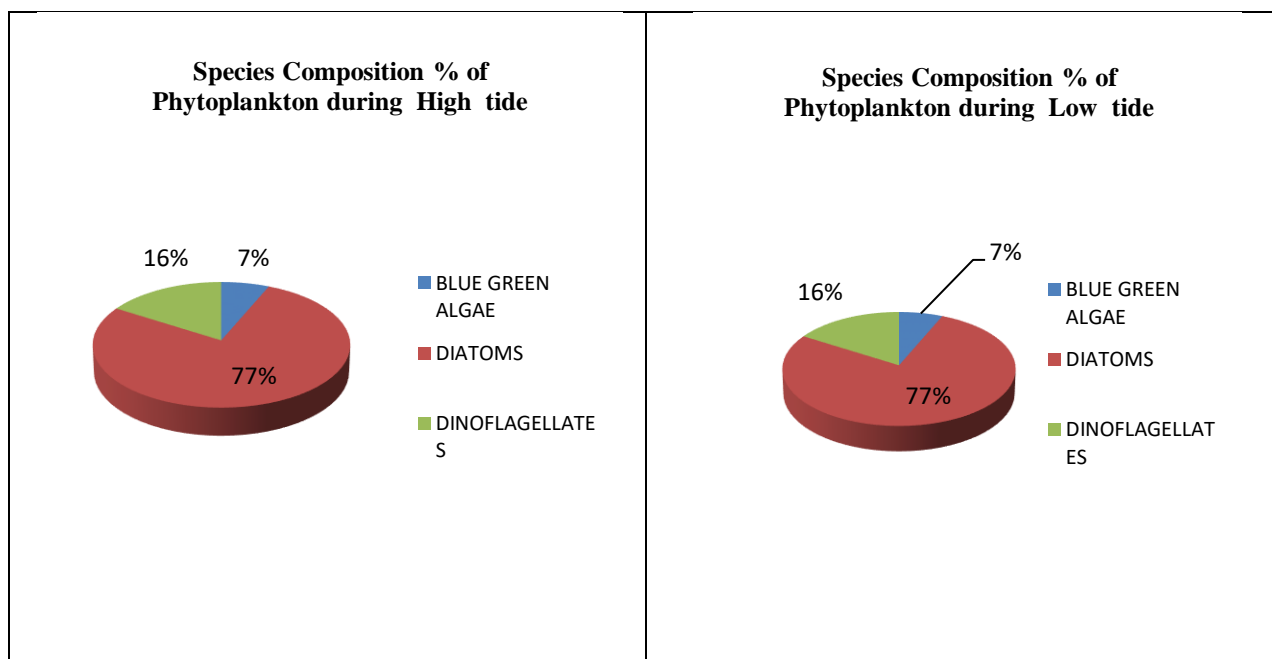
Table:- 54 ABUNDANCE OF PHYTOPLANKTON SUBSURFACE SAMPLING STATIONS IN DPA OOT AT PATH FINDER CREEK , VADINAR & NEAR BY SPM, DURING NEAP TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling location	Group of phytoplankton	Phytoplankton Group range Units/L	Genera or species /total Phyto plankton	Species Composition % (Group level)
HIGH TIDE	Sub surface	2	BLUE GREEN ALGAE	5-7	4/42	9.52
			DIATOMS	238-248	32/42	76.19
			DINOFLAGELLATES	1-4	6/42	14.29
			TOTAL PHYTO PLANKTON	244-259		
LOW TIDE	Sub surface	2	BLUE GREEN ALGAE	4-8	4/42	9.52
			DIATOMS	194-282	32/42	76.19
			DINOFLAGELLATES	2-4	6/42	14.29
			TOTAL PHYTO PLANKTON	200-294		

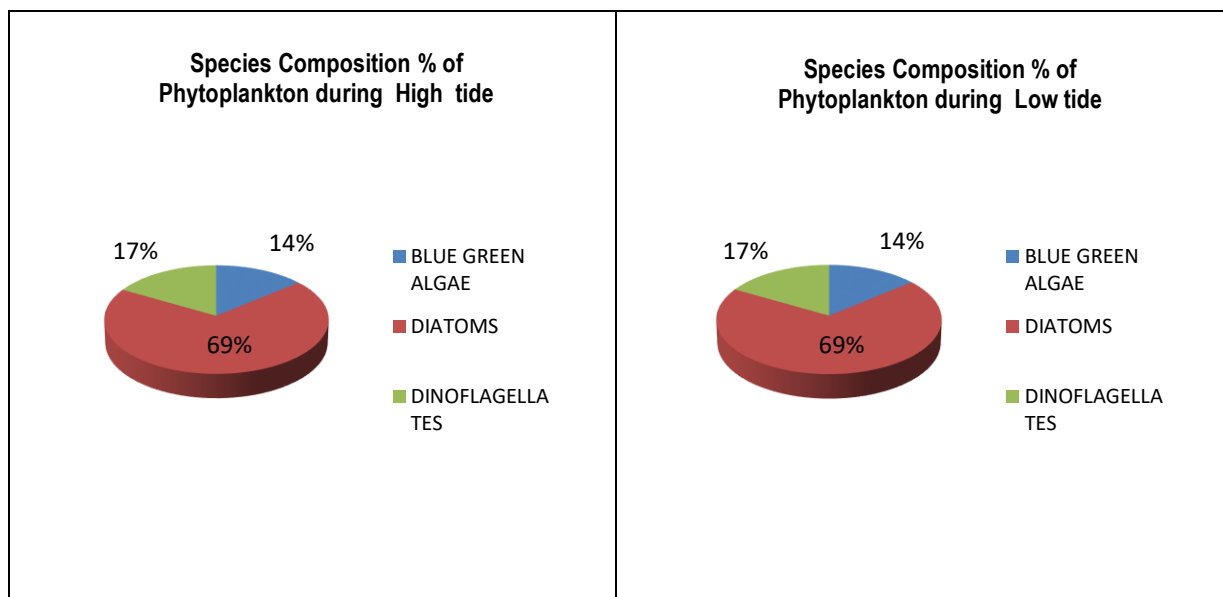
Species Composition % of Phytoplankton during High tide and Low tide period during spring tide in Kandla creek and nearby creeks



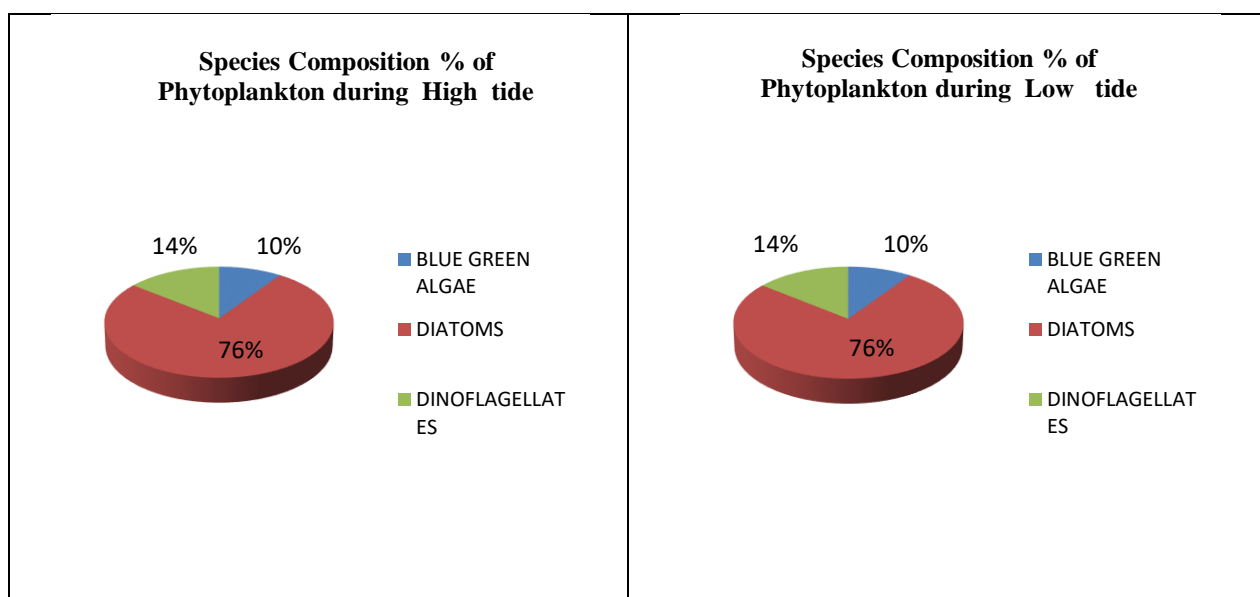
Species Composition % of Phytoplankton during High tide and Low tide period during Neap tide in Kandla creek and nearby creeks



Species Composition % of Phytoplankton during High tide and Low tide period during spring tide in Path Finder Creek, Vadinar



Species Composition % of Phytoplankton during High tide and Low tide period during Neap tide in Path Finder Creek, Vadinar



ZOOPLANKTON POPULATION:

For the evaluation of the Zooplankton population in DPA harbour area and within the immediate surroundings of the port sampling was conducted from 6 sampling locations (3 in harbour area and two in Nakti creek and one in Khoricreek) during high tide period and low tide period of spring tide and Neap tide in November, 2022. The Zooplankton community of the sub surface water in the harbour and nearby creeks during spring tide was represented by mainly six groups; Tintinnids, Copepods, Arrow worms, Mysids, Urochordata, Ciliates and 8 larval forms. The Zooplankton community of the sub surface water in the harbour and nearby creeks during neap tide was represented by mainly six groups; Tintinnids, Copepods, Arrow worms, Mysids, Urochordata, Ciliates and 6 larval forms.

Zooplankton of the sampling stations at sub surface layer in the DPA harbour area and nearby creek was varying from $25-128 \times 10^3$ N/m³ during high tide and $103-144 \times 10^3$ N/m³ during low tide of Spring Tide period. Zooplankton of the sampling stations at sub surface layer in the DPA harbour area and nearby creek was varying from $19-114 \times 10^3$ N/m³ during high tide and $76-106 \times 10^3$ N/m³ during low tide of Neap Tide period.

For the evaluation of the Zooplankton population in DPA OOT jetty area in Path Finder creek and SPM in Vadinar selected 2 sampling locations (1 in jetty area and one near SPM).

During spring tide sampling plankton sample were collected at Jetty area and near SPM during consecutive high tide period and low tide period. During Neap tide sampling Plankton samples were collected from jetty area and SPM during consecutive high tide period and low tide period.

The Zooplankton community of the sub surface water in the path finder creek during spring tide was represented by mainly four groups Tintinnids, Copepods, Urochordata, Ciliates and 4 larval forms. While the Zooplankton community of the sub surface water in the path Finder creeks at Jetty region and SPM during neap tide was represented by four groups, Tintinnids, Copepods, Arrow worms, Urochordata and 5 larval forms.

Zooplankton of the sampling stations at sub surface layer in the DPA OOT Jetty area of path finder creek was 91×10^3 N/m³ during high tide and 86×10^3 N/m³ during low tide of Spring Tide period. Zooplankton of the sampling stations at sub surface layer in the DPA SPM area of path finder creek was 101×10^3 N/m³ during high tide and 70×10^3 N/m³ during low tide of spring Tide period.

Zooplankton of the sampling stations at sub surface layer in the DPA OOT jetty area in path finder creek was recorded 87×10^3 N/m³ during high tide and 65×10^3 N/m³ during consecutive low tide period of Neap tide. Zooplankton of the sampling stations at sub surface layer in the DPASPM area in path finder creek was recorded 64×10^3 N/m³ during high tide and 87×10^3 N/m³ during consecutive low tide period of Neap Tide.

Species Richness Indices and Diversity Indices:

Margalef's diversity index (Species Richness)

Margalef's diversity index (Species Richness) of Zooplankton communities in the stations Kandla creek region and nearby creeks was varying from 2.175- 5.186 with an average of 3.450 during the sampling conducted in High tide period. Margalef's diversity index (Species Richness) of Zooplankton communities varying from 2.373-3.823 with an average of 3.261 during the sampling conducted in low tide period during Spring tide.

Margalef's diversity index (Species Richness) of Zooplankton communities in the Kandla creek region and nearby creeks sampling stations were varying from 1.358-3.858 with an average of 2.930 during the sampling conducted in high tide and varying from 2.289- 4.618 with an average of 3.513 during the sampling conducted in low tide during Neap tide period.

Margalef's diversity index (Species Richness) of Zooplankton communities in the sampling station near jetty at Path Finder Creek, Vadinar during the sampling conducted in consecutive high tide period and low tide of spring tide was recorded as 1.995 and 1.796 respectively. Margalef's diversity index (Species Richness) of Zooplankton communities in the sampling station near SPM at Path Finder Creek, Vadinar during the sampling conducted in consecutive high tide period and low tide of spring tide was recorded as 2.600 and 2.118 respectively.

Margalef's diversity index (Species Richness) of Zooplankton communities near Jetty at Path finder creek were varying from 3.807 and 2.396 respectively during the sampling conducted in consecutive high tide period and Low tide period of Neap tide. While Margalef's diversity index (Species Richness) of Zooplankton communities near SPM at Path finder creek were varying from 2.645-3.135 respectively during the consecutive high tide and low tide period.

Shannon-Wiener's index:

Shannon-Wiener's Index (H) of Zooplankton communities in the sampling stations in Kandla Harbour region and nearby creeks was in the range of 0.778-1.164 between selected sampling stations with an average value of 0.939 during high tide period of spring tide. Shannon-Wiener's Index (H) of Zooplankton communities in the sampling stations in Kandla Harbour region and nearby creeks was in the range of 0.795-1.015 between selected sampling stations with an average value of 0.938 during consecutive low tide period.

Shannon-Wiener's Index (H) of Zooplankton communities in the sampling stations in Kandla Harbour region and nearby creeks was in the range of 0.490-0.914 between selected sampling stations with an average value of 0.805 during high tide period of Neap tide. Shannon-Wiener's Index (H) of Zooplankton communities in the sampling stations in Kandla Harbour region and nearby creeks was in the range 0.797-1.041 of between selected sampling stations with an average value of 0.928 during consecutive low tide period.

Shannon-Wiener's Index (H) of Zooplankton communities in the sampling station near jetty at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of spring tide was recorded as 0.816-0.793 respectively. Shannon-Wiener's Index (H) of Zooplankton communities in the sampling station near SPM at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of spring tide was recorded as 0.834-0.808 respectively.

Shannon-Wiener's Index (H) of Zooplankton communities near jetty at Path finder creek was varying from 0.956-0.755 respectively during the sampling conducted consecutive high tide period and low tide period of Neap tide. While Shannon-Wiener's Index (H) of Zooplankton communities near SPM at Path finder creek was varying from 0.775-0.751 during the consecutive high tide and low tide period.

Typical values are generally between 1.5 and 3.5 in most ecological studies, and the index is rarely greater than 4. The Shannon-Wiener's index increases as both the richness and the evenness of the community increase. This result indicates that diversity of Zooplankton of Kandla Harbour region and nearby creeks stations is slightly high with very minimum diverse population but very few opportunist organisms are really well adapted to this environment and thrive better than other species.

Simpson's diversity index:

Simpson diversity index (1-D) of Zooplankton communities was below 0.9 most of sampling stations in the Kandla Harbour region and nearby creeks during high tide and low tide of spring tide period except few stations, which was varying from 0.780-0.909 between selected sampling stations with an average of 0.837 during high tide period and was varying from 0.785- 0.864 with an average value of 0.837 between selected sampling stations during low tide.

Simpson diversity index (1-D) of Zooplankton communities was below 0.9 at all sampling stations in the Kandla Harbour region and nearby creeks during high tide and low tide period of Neap tide except few, which was varying from 0.591-0.827 between selected sampling stations with an average of 0.753 during high tide period and was varying from 0.793-0.852 with an average value of 0.820 between selected sampling stations during consecutive low tide. This species diversity suggests a relatively few successful species in this habitat during November, 2022 sampling.

Simpson diversity index (1-D) of Zooplankton communities in the sampling station near jetty at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of spring tide was recorded as 0.821 and 0.815 respectively. Simpson diversity index (1-D) of Zooplankton communities in the sampling station near SPM at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of spring tide was recorded as 0.812 and 0.828 respectively.

Simpson diversity index (1-D) of Zooplankton communities in the sampling station near jetty at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of Neap tide was recorded as 0.836- 0.766 respectively. Simpson diversity index (1-D) of Zooplankton communities in the sampling station near SPM at Path Finder Creek, Vadinar during the sampling conducted in consecutive High tide period and low tide of spring tide was recorded as 0.768 and 0.719 respectively.

TABLE:-55 ZOOPLANKTON VARIATION IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND NEAR BY CREEKS DURING SPRING TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In $N \times 10^3 / m^3$	No of Species/groups observed /total species/group	% of diversity	Margalef's diversity index (Species Richness S)	Shannon Weiner index H (\log_{10})	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	1	124	26/33	78.79	5.186	1.164	0.9089
	2	114	18/33	54.55	3.589	0.8655	0.7802
	3	102	16/33	48.48	3.243	0.9207	0.8189
	4	128	17/33	51.52	3.298	0.9062	0.8124
	5	107	16/33	48.48	3.21	0.997	0.8686
	6	25	8/33	24.24	2.175	0.7777	0.83
LOW TIDE	1	117	16/33	48.48	3.15	0.9709	0.8609
	2	144	20/33	60.61	3.823	0.9468	0.8238
	3	121	19/33	57.58	3.753	1.015	0.8639
	4	108	16/33	48.48	3.204	0.9609	0.8505
	5	103	12/33	36.36	2.373	0.7949	0.7853

TABLE:-56 ZOOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA HARBOUR AREA AT KANDLA CREEK AND NEAR BY CREEKS DURING NEAP TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In $No \times 10^3 / m^3$	No of Species/groups observed /total species/group	% of diversity	Margalef's diversity index (Species Richness S)	Shannon Weiner index H (\log_{10})	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	1	82	18/32	56.25	3.858	0.9017	0.7814
	2	99	16/32	50.00	3.264	0.9138	0.8273
	3	89	13/32	40.63	2.673	0.8264	0.7763
	4	114	18/32	56.25	3.589	0.8478	0.7645
	5	98	14/32	43.75	2.835	0.8503	0.7766
	6	19	5/32	15.63	1.358	0.4901	0.5906
LOW TIDE	1	79	11/32	34.38	2.289	0.797	0.7932
	2	76	21/32	65.63	4.618	1.041	0.8516
	3	106	21/32	65.63	4.289	1.026	0.8446
	4	90	15/32	46.88	3.111	0.9087	0.8177
	5	100	16/32	50.00	3.257	0.865	0.7939

**Table:-57 ABUNDANCE OF ZOOPLANKTON IN SUBSURFACE SAMPLING STATIONS
IN DPA HARBOUR AREAATKANDLA CREEK AND NEAR BY CREEKS DURING
SPRING TIDE IN NOVEMBER 2022**

Tide	Surface	No of Sampling locations	Group of Zooplankton	Abundance of Zooplankton x10 ³ / m ³ Group Range	Genera or species /total Zooplankton	Taxon Diversity % (Group level)
HIGH TIDE	Sub surface	6	tintinnids	9-26	11/33	33.33
			Copepods	11-51	9/33	27.27
			Arrow worms	0-1	1/33	3.03
			Mysids	0-2	1/33	3.03
			Urochordata	1-6	2/33	6.06
			Ciliates	0-2	1/33	3.03
			Larval forms	4-50	8/33	24.25
			TOTAL ZOOPLANKTON N/ M ³	25-128	33	
LOW TIDE	Sub surface	5	Tintinnids	18-33	11/33	33.33
			Copepods	37-49	9/33	27.27
			Arrow worms	0-4	1/33	3.03
			Mysids	0-2	1/33	3.03
			Urochordata	0-2	2/33	6.06
			Ciliates	0-2	1/33	3.03
			Larval forms	41-65	8/33	24.25
			TOTAL ZOOPLANKTON N/M ³	103-144	33	

TABLE:-58 ABUNDANCE OF ZOOPLANKTON IN SUBSURFACE SAMPLING STATIONS IN DPA HARBOUR AREA IN KANDLA CREEK AND, NEAR BY CREEKS DURING NEAP TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling locations	Group of Zooplankton	Abundance of Zooplankton $\times 10^3 / m^3$ Group Range	Genera or species /total Zooplankton	Taxon Diversity % (Group level)
HIGH TIDE	Sub surface	6	Tintinnids	0-14	10/32	31.25
			Copepods	6-49	10/32	31.25
			Arrow worms	0	1/32	3.13
			Mysids	0-6	2/32	6.25
			Urochordata	0-4	2/32	6.25
			Ciliates	0-2	1/32	3.13
			Larval forms	13-50	6/32	18.74
			TOTAL ZOOPLANKTON N/M ³	19-114	32	
LOW TIDE	Sub surface	5	tintinnids	4-17	10/32	31.25
			Copepods	25-45	10/32	31.25
			Arrow worms	0-2	1/32	3.13
			Mysids	0-6	2/32	6.25
			Urochordata	0-5	2/32	6.25
			Ciliates	0-1	1/32	3.13
			Larval forms	27-47	6/32	18.74
			TOTAL ZOOPLANKTON N/M ³	76-106	32	

Table:-59 ZOOPLANKTON VARIATIONS IN ABUNDANCE AND DIVERSITY IN SUBSURFACE SAMPLING STATIONS IN DPA OOT AREA AT PATH FINDER CREEK AND NEAR BY SPM DURING SPRING TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In $\times 10^3 N / m^3$	No of Species/groups observed /total species/group	% of diversity	Margalef's diversity index (Species Richness S)	Shannon Weiner index H (log ₁₀)	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	Jetty	91	10/20	50.00	1.995	0.816	0.821
	SPM	101	13/20	65.00	2.6	0.834	0.812
LOW TIDE	Jetty	86	9/20	45.00	1.796	0.793	0.815
	SPM	70	10/20	50.00	2.118	0.808	0.828

TABLE:-60 ZOOPLANKTON VARIATION IN ABUNDANCE AND DIVERSITY IN SUB SURFACE SAMPLING STATIONS IN DPA OOT AREA AT PATH FINDER CREEK AND NEAR BY SPM DURING NEAP TIDE IN NOVEMBER 2022

Tide	Sampling Station	Abundance In $N \times 10^3 / m^3$	No of Species/groups observed /total species/group	% of diversity	Margalef's diversity index (Species Richness S)	Shannon Weiner index $H (\log_{10})$	Diversity Index (Simpson's Index) 1-D
HIGH TIDE	Jetty	87	18/21	85.71	3.807	0.956	0.836
	SPM	64	12/21	57.14	2.645	0.775	0.768
LOW TIDE	Jetty	65	11/21	52.38	2.396	0.755	0.766
	SPM	87	15/21	71.43	3.135	0.751	0.719

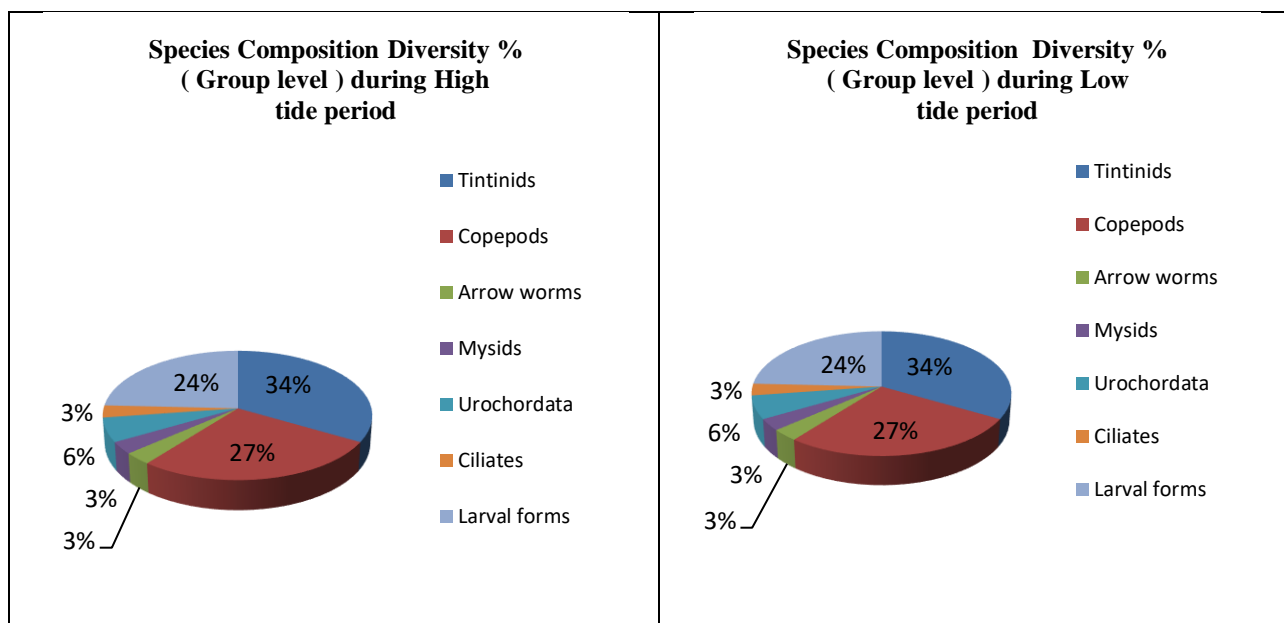
Table:-61 ABUNDANCE OF ZOOPLANKTON IN SUBSURFACE SAMPLING STATIONS IN DPA OOT AREA AND PATH FINDER CREEK AND NEAR BY SPM DURING SPRING TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling locations	Group of Zooplankton	Abundance of Zooplankton $\times 10^3 / m^3$ Group Range	Genera or species /total Zooplankton	Taxon Diversity % (Group level)
HIGH TIDE	Sub surface	2	Tintinnids	24-32	5/20	25.00
			Copepods	28-38	8/20	40.00
			Urochordata	1-2	2/20	10.00
			Ciliates	0-1	1/20	5.00
			Larval forms	30-36	4/20	20.00
			TOTAL ZOOPLANKTON	91-101	20	
LOW TIDE	Sub surface	2	Tintinnids	17-21	5/20	25.00
			Copepods	30-37	8/20	40.00
			Urochordata	0	2/20	10.00
			Ciliates	0	1/20	5.00
			Larval forms	19-32	4/20	20.00
			TOTAL ZOOPLANKTON	70-86	20	

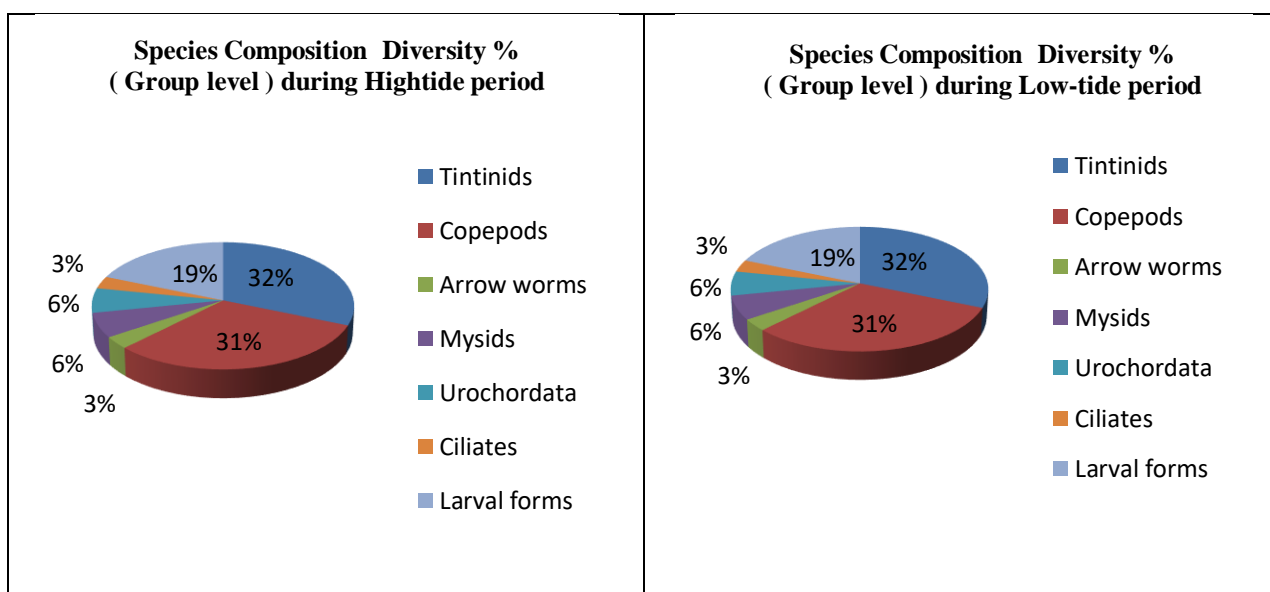
TABLE:-62 ABUNDANCE OF ZOOPLANKTON IN SUBSURFACE SAMPLING STATIONS IN DPA OOT AREA AT PATH FINDER CREEK AND NEAR BY SPM DURING NEAP TIDE IN NOVEMBER 2022

Tide	Surface	No of Sampling locations	Group of Zooplankton	Abundance of Zooplankton x10 ³ / m ³ Group Range	Genera or species /total Zooplankton	Taxon Diversity % (Group level)
HIGH TIDE	Sub surface	2	tintinnids	9-16	7/21	33.33
			Copepods	23-34	6/21	28.57
			Arrow worms	0	1/21	4.76
			Urochordata	0-2	2/21	9.52
			Larval forms	32-35	5/21	23.82
			TOTAL ZOOPLANKTON	64-87	21	
LOW TIDE	Sub surface	2	tintinnids	6-9	7/21	33.33
			Copepods	29	6/21	28.57
			Arrow worms	0-1	1/21	4.76
			Urochordata	0-3	2/21	9.52
			Larval forms	27-48	5/21	23.82
			TOTAL ZOOPLANKTON	65-87	21	

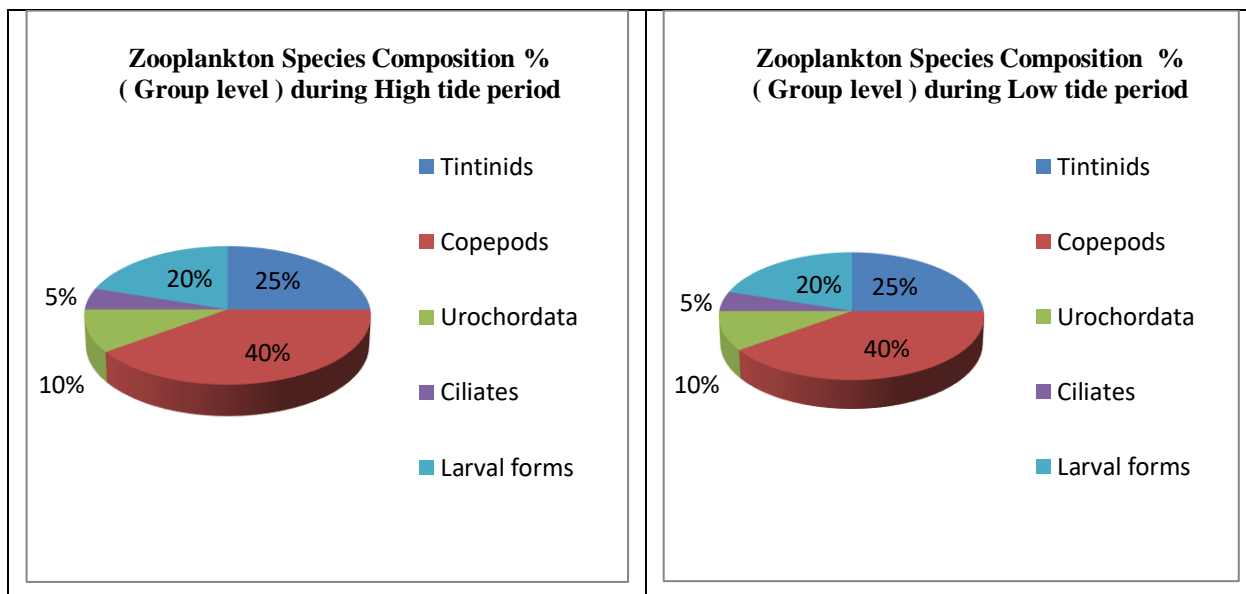
**Species Composition % of Zooplankton during High tide and Low tide period of spring tide In
Kandla Creek and nearby Creeks**



**Species Composition % of Zooplankton during High tide and Low tide period of Neap tide In
Kandla Creek and nearby Creeks**



Species Composition % of Zooplankton during High tide and Low tide period of Spring tide In Path Finder Creek and near Jetty



Species Composition % of Zooplankton during High tide and Low tide period of Neap tide In Path Finder Creek near jetty and nearby SPM

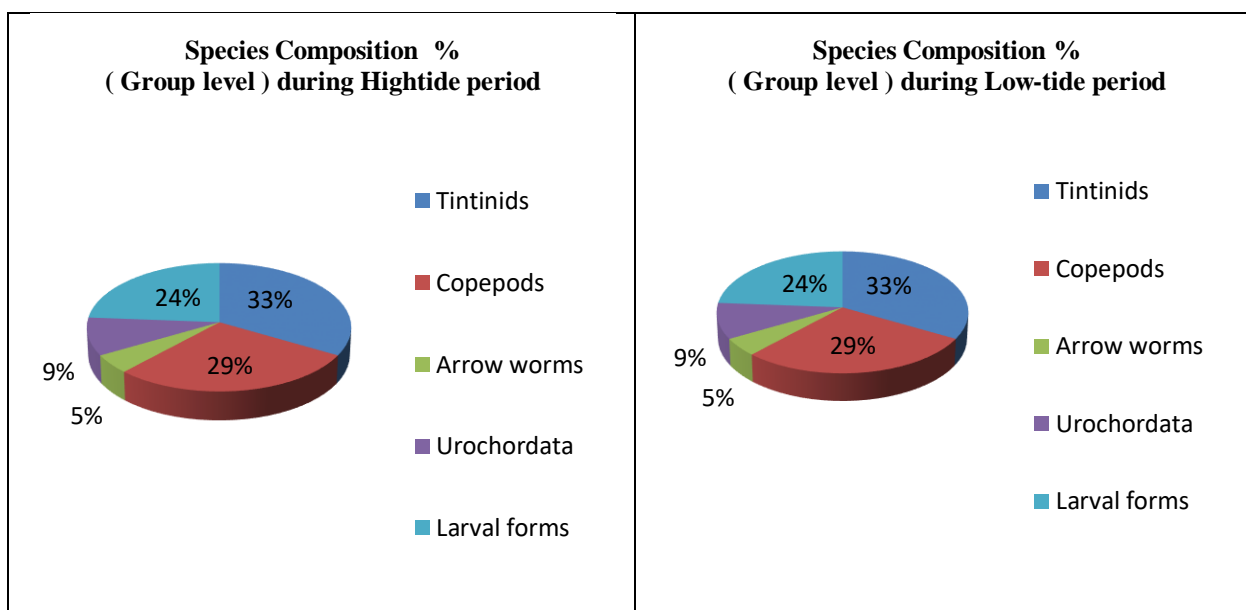


TABLE:-63 SYSTEMATIC ACCOUNT OF PHYTOPLANKTON IN THE SAMPLING LOCATIONS OF DPA HARBOUR AREA AT KANDLA CREEK AND NEARBY CREEKS DURING NEAP TIDE OF NOVEMBER 2022

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	Relative Abundance
Cyanophyceae	Nostocales	Oscillatoriaceae	<i>Oscillatoria sp.</i>	B1	Very sparse
	Oscillatoriales	Phormidiaceae	<i>Planktothrix sp.</i>	B2	Very sparse
Coccinodiscophyceae	Biddulphiales	Biddulphiaceae	<i>Biddulphiasp</i>	D1	Abundant
	Chaetocerotales	Chaetocerotaceae	<i>Bacteriastrum sp</i>	D2	Very sparse
			<i>Chaetoceros sp.</i>	D3	Scattered
	Corethrales	Corethraceae	<i>Corethron sp</i>	D4	Very sparse
	Coccinodiscales	Coccinodiscaceae	<i>Coccinodiscus sp.</i>	D5	Dominant
	Hemiaulales	Bellerocheaceae	<i>Bellerochea sp</i>	D6	Very sparse
		Streptothecaceae	<i>Helicotheca sp</i>	D7	Very sparse
	Rhizosoleniales	Rhizosoleniaceae	<i>Rhizosolenia sp.</i>	D8	Sparse
	Lithodesmiales	Lithodesmiaceae	<i>Ditylum sp</i>	D9	Dominant
	Thalassiosirales	Thalassiosiraceae	<i>Planktoniellasp</i>	D10	Very sparse
		Skeletonemataceae	<i>Skeletonemas sp</i>	D11	Abundant
	Triceratiales	Triceratiaceae	<i>Odontella sp.</i>	D12	Very sparse
			<i>Triceratium sp.</i>	D13	Very sparse
Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Bacillaria sp.</i>	D14	Very sparse
			<i>Nitzschia sp</i>	D15	Sparse
			<i>Pseudo-nitzschia sp.</i>	D16	Very sparse
	Naviculales	<u>Pleurosigmataceae</u>	<i>Pleurosigma sp.</i>	D17	Very sparse
	Surirellales	Entomoneidaceae	<i>Entomoneis sp.</i>	D18	Very sparse
Fragilariophyceae	Fragilariales	Fragilariaceae	<i>Asterionellopsis sp</i>	D19	Scattered
			<i>Fragilariasp</i>	D20	Very sparse
			<i>Synedrassp</i>	D21	Very sparse

	Striatellales	Striatellaceae	<i>Grammatophora sp</i>	D22	Very sparse
	Thalassionematales	Thalassionemataceae	<i>Thalassionema sp.</i>	D23	Sparse
			<i>Thalassiothrix sp.</i>	D24	Very sparse
Noctiluca / Noctiluciphyceae (Dinokaryota)	Noctilucales	Noctilucaceae	<i>Noctiluca sp.</i>	DF1	Sparse
Dinophyceae	Peridiniales	Protopteridiniaceae	<i>Protopteridinium sp.</i>	DF2	Very sparse
	Gonyaulacales	Pyrophacaceae	<i>Pyrophacus sp.</i>	DF3	Very sparse
		Ceratiaceae	<i>Ceratium furca</i>	DF4	Very sparse
			<i>Ceratium tripos</i>	DF5	Very sparse

TABLE:-64 SYSTEMATIC ACCOUNT OF PHYTOPLANKTON IN THE SAMPLING LOCATIONS IN OF DPA HARBOUR AREA AT KANDLA CREEK AND NEARBY CREEKS DURING SPRING TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	Relative Abundance
Cyanophyceae	Nostocales	Oscillatoriaceae	<i>Oscillatoria sp.</i>	B1	Very sparse
	Oscillatoriales	Phormidiaceae	<i>Planktothrix sp.</i>	B2	Very sparse
Coscinodiscophyceae	Biddulphiales	Biddulphiaceae	<i>Biddulphia</i> sp.	D1	Sparse
	Chaetocerotales	Chaetocerotaceae	<i>Chaetoceros sp.</i>	D2	Abundant
	Corethrales	Corethraceae	<i>Corethron sp.</i>	D3	Very sparse
	Coscinodiscales	Coscinodiscaceae	<i>Coscinodiscus sp.</i>	D4	Abundant
	Rhizosoleniales	Rhizosoleniaceae	<i>Rhizosolenia sp.</i>	D5	Sparse
	Leptocylindrales	Leptocylindraceae	<i>Leptocylindrus sp.</i>	D6	Very sparse
	Lithodesmiales	Lithodesmiaceae	<i>Ditylum sp.</i>	D7	Scattered
	Thalassiosirales	Thalassiosiraceae	<i>Planktoniella</i> sp.	D8	Very sparse
		Lauderiaceae	<i>Lauderia sp.</i>	D9	Very sparse
		Skeletonemataceae	<i>Skeletonemas</i> sp.	D10	Dominant
	Triceratiales	Triceratiaceae	<i>Odontella sp.</i>	D11	Very sparse
			<i>Triceratium sp.</i>	D12	Very sparse
Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Bacillaria sp.</i>	D13	Very sparse
			<i>Nitzschia sp.</i>	D14	Very sparse
			<i>Pseudo-nitzschia sp.</i>	D15	Very sparse
	Naviculales	Naviculaceae	<i>Navicula sp.</i>	D16	Very sparse
		Plagiotropidaceae	<i>Plagiotropis sp.</i>	D17	Very sparse
		<u>Pleurosigmataceae</u>	<i>Pleurosigma sp.</i>	D18	Sparse
	Surirellales	Entomoneidaceae	<i>Entomoneis sp.</i>	D19	Very sparse
		Surirellaceae	<i>Surirella sp.</i>	D20	Very sparse
Fragilariophyceae	Fragilariales	Fragilariaceae	<i>Asterionellopsis sp.</i>	D21	Sparse

			<i>Fragilariasp</i>	D22	Very sparse
			<i>Synedrassp</i>	D23	Sparse
	Striatellales	Striatellaceae	<i>Grammatophora sp</i>	D24	Very sparse
	Thalassionematales	Thalassionemataceae	<i>Thalassionema sp.</i>	D25	Scattered
			<i>Thalassiothrix sp.</i>	D26	Sparse
Noctiluca / Noctiluciphyceae (Dinokaryota)	Noctilucales	Noctilucaceae	<i>Noctiluca sp.</i>	DF1	Sparse
Dinophyceae	Peridiniales	Protoperidiniaceae	<i>Protoperidinium sp.</i>	DF2	Very sparse
	Gonyaulacales	Ceratiaceae	<i>Ceratium breve</i>	DF3	Very sparse
			<i>Ceratium furca</i>	DF4	Very sparse
			<i>Ceratium fusus</i>	DF5	Very sparse
			<i>Ceratium tripos</i>	DF6	Very sparse

TABLE:-65 SYSTEMATIC ACCOUNT OF PHYTOPLANKTON IN THE SAMPLING LOCATIONS IN OF DPA OOT AREA AT PATH FINDER CREEK AND NEARBY SPM AT VADINARDURING NEAP TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	Relative Abundance
Cyanophyceae	Nostocales	Oscillatoriaceae	<i>Lyngbya sp.</i>	B1	Very sparse
			<i>Oscillatoria sp.</i>	B2	Very sparse
			<i>Spirulina sp.</i>	B3	Very sparse
	Oscillatoriales	Phormidiaceae	<i>Planktothrix sp.</i>	B4	Very sparse
Coscinodiscophyceae	Biddulphiales	Biddulphiaceae	<i>Biddulphia</i> sp	D1	Scattered
	Chaetocerotales	Chaetocerotaceae	<i>Chaetoceros</i> sp	D2	Scattered
	Corethrales	Corethraceae	<i>Corethron sp</i>	D3	Very sparse
	Coscinodiscales	Coscinodiscaceae	<i>Coscinodiscus sp.</i>	D4	Dominant
	Hemiaulales	Bellerocheaceae	<i>Belleroche</i> sp	D5	Very sparse
		Hemiaulaceae	<i>Cerataulina sp.</i>	D6	Very sparse
			<i>Eucampia sp</i>	D7	Very sparse
		Streptothecaceae	<i>Helicotheca sp</i>	D8	Very sparse
	Leptocylindrales	Leptocylindraceae	<i>Leptocylindrus sp</i>	D9	Very sparse
	Lithodesmiales	Lithodesmiaceae	<i>Ditylum</i> sp	D10	Abundant
	Rhizosoleniales	Rhizosoleniaceae	<i>Dactyliosolen sp.</i>	D11	Very sparse
			<i>Rhizosolenia sp.</i>	D12	Sparse
	Thalassiosirales	Skeletonemataceae	<i>Skeletonema sp.</i>	D13	Abundant
		Lauderiaceae	<i>Lauderia sp</i>	D14	Very sparse
		Thalassiosiraceae	<i>Planktoniella</i> sp	D15	Very sparse
	Triceratiales	Triceratiaceae	<i>Odontella</i> sp	D16	Very sparse
			<i>Triceratium</i> sp	D17	Very sparse
Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Bacillaria</i> sp.	D18	Abundant
			<i>Nitzschia sp</i>	D19	Very sparse

			<i>Pseudo-nitzschiasp</i>	D20	Scattered
	Naviculales	Naviculaceae	<i>Meuniera sp.</i>	D21	Very sparse
			<i>Navicula sp</i>	D22	Very sparse
		Pinnulariaceae	<i>Pinnulariasp</i>	D23	Very sparse
		<u>Pleurosigmataceae</u>	<i>Pleurosigma sp</i>	D24	Very sparse
	Surirellales	Entomoneidaceae	<i>Entomoneis sp.</i>	D25	Very sparse
		Surirellaceae	<i>Surirellasp</i>	D26	Very sparse
Fragilariophyceae	Climacospheniales	Climacospheniaceae	<i>Climacosphenia sp.</i>	D27	Very sparse
	Fragilariales	Fragilariaceae	<i>Asterionellopsis sp.</i>	D28	Very sparse
			<i>Synedra sp.</i>	D29	Very sparse
	Striatellales	Striatellaceae	<i>Striatellasp</i>	D30	Very sparse
	Thalassionematales	Thalassionemataceae	<i>Thalassionema sp.</i>	D31	Sparse
			<i>Thalassiothrix sp.</i>	D32	Sparse
Dinophyceae	Peridiniales	Protoperidiniaceae	<i>Protoperidinium sp.</i>	DF1	Very sparse
	Dinophysales	Dinophysaceae	<i>Dinophysis sp.</i>	DF2	Very sparse
	Gonyaulacales	Pyrophacaceae	<i>Pyrophacus sp.</i>	DF3	Very sparse
		Ceratiaceae	<i>Ceratium furca</i>	DF4	Very sparse
			<i>Ceratium fusus</i>	DF5	Very sparse
			<i>Ceratium tripos</i>	DF6	Very sparse

TABLE:-66 SYSTEMATIC ACCOUNT OF PHYTOPLANKTON IN THE SAMPLING LOCATIONS IN OF DPAOOT AREA AT PATH FINDER CREEK AND NEARBY SPM AT VADINAR DURING AND SPRING TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	Relative Abundance
Cyanophyceae	Chroococcales	Chroococcaceae	<i>Merismopedia</i> sp.	B1	Very sparse
	Nostocales	Oscillatoriaceae	<i>Lyngbya</i> sp.	B2	Very sparse
			<i>Oscillatoria</i> sp.	B3	Sparse
	Oscillatoriales	Phormidiaceae	<i>Planktothrix</i> sp.	B4	Very sparse
	Stigonematales	Stigonemataceae	<i>Stigonema</i> sp.	B5	Very sparse
Coscinodiscophyceae	Biddulphiales	Biddulphiaceae	<i>Biddulphia</i> sp.	D1	Sparse
	Chaetocerotales	Chaetocerotaceae	<i>Chaetoceros</i> sp.	D2	Dominant
	Corethrales	Corethraceae	<i>Corethron</i> sp.	D3	Very sparse
	Coscinodiscales	Coscinodiscaceae	<i>Coscinodiscus</i> sp.	D4	Abundant
	Hemiaulales	Belleracheaceae	<i>Bellerachea</i> sp.	D5	Very sparse
		Hemiaulaceae	<i>Cerataulina</i> sp.	D6	Very sparse
		Streptothecaceae	<i>Helicotheca</i> sp.	D7	Very sparse
	Rhizosoleniales	Rhizosoleniaceae	<i>Rhizosolenia</i> sp.	D8	Scattered
	Leptocylindrales	Leptocylindraceae	<i>Leptocylindrus</i> sp.	D9	Very sparse
	Lithodesmiales	Lithodesmiaceae	<i>Ditylum</i> sp.	D10	Abundant
	Thalassiosirales	Thalassiosiraceae	<i>Planktoniella</i> sp.	D11	Very sparse
		Lauderiaceae	<i>Lauderia</i> sp.	D12	Very sparse
	Triceratiales	Triceratiaceae	<i>Odontella</i> sp.	D13	Sparse
			<i>Triceratium</i> sp.	D14	Very sparse
Bacillariophyceae	Bacillariales	Bacillariaceae	<i>Bacillaria</i> sp.	D15	Scattered
			<i>Nitzschia</i> sp.	D16	Very sparse
			<i>Pseudo-nitzschia</i> sp.	D17	Sparse
	Naviculales	Pinnulariaceae	<i>Pinnularia</i> sp.	D18	Very sparse

		<u>Pleurosigmataceae</u>	<i>Pleurosigma</i> sp.	D19	Very sparse
	Surirellales	Entomoneidaceae	<i>Entomoneis</i> sp.	D20	Very sparse
		Surirellaceae	<i>Surirella</i> sp.	D21	Very sparse
Fragilariophyceae	Fragilariales	Fragilariaceae	<i>Asterionellopsis</i> sp	D22	Sparse
			<i>Synedrassp</i>	D23	Very sparse
	Thalassionematales	Thalassionemataceae	<i>Thalassionema</i> sp.	D24	Sparse
			<i>Thalassiothrix</i> sp.	D25	Very sparse
Dinophyceae	Peridinales	Protoperidiniaceae	<i>Protoperidinium</i> sp.	DF1	Very sparse
	Dinophysales	Dinophysaceae	<i>Dinophysis</i> sp.	DF2	Very sparse
	Gonyaulacales	Pyrophacaceae	<i>Pyrophacus</i> sp.	DF3	Very sparse
		Ceratiaceae	<i>Ceratium furca</i>	DF4	Very sparse
			<i>Ceratium fusus</i>	DF5	Very sparse
			<i>Ceratium tripos</i>	DF6	Very sparse

TABLE:-67 SYSTEMATIC ACCOUNT OF ZOOPLANKTON FROM THE SAMPLING LOCATIONS OF DPA HARBOUR AREA AT KANDLA CREEK AND NEARBY CREEKS DURING NEAP TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	RELATIVE ABUNDANCE
Spirotrichea	Tintinnida	Tintinnidiidae	<i>Leprotintinnus</i> sp.	T1	Very sparse
		Codonellidae	<i>Tintinnopsis dadayi</i>	T2	Very sparse
			<i>Tintinnopsis failakkaensis</i>	T3	Very sparse
			<i>Tintinnopsis gracilis</i>	T4	Very sparse
			<i>Tintinnopsis mortensenii</i>	T5	Very sparse
			<i>Tintinnopsis radix</i>	T6	Very sparse
			<i>Tintinnopsis tocaninensis</i>	T7	Very sparse
		Tintinnidae	<i>Amphorellopsis</i> sp.	T8	Very sparse
			<i>Eutintinnus</i> sp.	T9	Very sparse
		Xystonellidae	<i>Favella</i> sp.	T10	Very sparse
Crustacea Subclass: Copepoda	Calanoida	Paracalanidae	<i>Acrocalanus</i> sp.	C1	Sparse
			<i>Parvocalanus</i> sp.	C2	Very sparse
		Acartiidae	<i>Acartia</i> sp.	C3	Very sparse
		Clausocalanidae	<i>Clausocalanus</i> sp.	C4	Very sparse
		Centropagidae	<i>Centropages</i> sp.	C5	Very sparse
		Temoridae	<i>Temora</i> sp.	C6	Very sparse
	Cyclopoida	Oithonidae	<i>Oithona</i> sp.	C7	Abundant
	Harpacticoida	Ectinosomatidae	<i>Microsetella</i> sp.	C8	Scattered
		Euterpinae	<i>Euterpina</i> sp.	C9	Sparse
	Poecilostomatoida	Oncaeidae	<i>Oncaea</i> sp.	C10	Very sparse
Sagittioidea	Aphragmophora	Sagittidae	<i>Sagitta</i> sp.	A1	Very sparse
Malacostraca	Mysida,	Penaeidae	<i>Metapenaeus</i> sp.	M1	Very sparse
	Decapoda	Solenoceridae	<i>Solenocera</i> sp.	M2	Very sparse

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Appendicularia		Fritillariidae	<i>Fritillaria sp.</i>	U1	Very sparse
		Oikopleuridae	<i>Oikopleura sp.</i>	U2	Very sparse
Oligohymenophorea	Sessilida	Zoothamniidae	<i>Zoothamnium sp.</i>	CI1	Very sparse
Copepoda			Nauplius larvae of copepods	L1	Dominant
Malacostraca			Brachyuran zoea	L2	Very sparse
Decapoda					
Maxillopoda			Cirripede larvae	L3	Very sparse
Thecostraca					
			Cyphonautes larvae	L4	Very sparse
			Ophiopluteus larvae	L5	Very sparse
Polychaeta			Trochophore larvae	L6	Very sparse

TABLE:-68 SYSTEMATIC ACCOUNT OF ZOOPLANKTON FROM THE SAMPLING OF DPA HARBOUR AREA AT KANDLA CREEK AND NEARBY CREEKS DURING SPRING TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	RELATIVE ABUNDANCE
Spirotrichea	Tintinnida	Tintinnidiidae	<i>Leptotintinnus</i> sp.	T1	Scattered
		Codonellidae	<i>Tintinnopsis dadayi</i>	T2	Very sparse
			<i>Tintinnopsis failakkaensis</i>	T3	Very sparse
			<i>Tintinnopsis gracilis</i>	T4	Very sparse
			<i>Tintinnopsis mortensenii</i>	T5	Very sparse
			<i>Tintinnopsis radix</i>	T6	Sparse
			<i>Tintinnopsis tocanensis</i>	T7	Very sparse
		Metacyclidae	<i>Metacyclis</i> sp.	T8	Very sparse
		Tintinnidae	<i>Amphorellopsis</i> sp.	T9	Very sparse
			<i>Eutintinnus</i> sp.	T10	Very sparse
		Xystonellidae	<i>Favella</i> sp.	T11	Sparse
Crustacea Subclass: Copepoda	Calanoida	Paracalanidae	<i>Acrocalanus</i> sp.	C1	Scattered
			<i>Parvocalanus</i> sp.	C2	Very sparse
		Acartiidae	<i>Acartia</i> sp.	C3	Very sparse
		Clausocalanidae	<i>Clausocalanus</i> sp.	C4	Very sparse
		Centropagidae	<i>Centropages</i> sp.	C5	Very sparse
		Eucalanidae	<i>Subeucalanus</i> sp.	C6	Very sparse
	Cyclopoida	Oithonidae	<i>Oithona</i> sp.	C7	Abundant
	Harpacticoida	Ectinosomatidae	<i>Microsetella</i> sp.	C8	Sparse
		Euterpinae	<i>Euterpina</i> sp.	C9	Sparse
Sagittioidea	Aphragmophora	Sagittidae	<i>Sagitta</i> sp.	A1	Very sparse
Malacostraca	Mysida, Decapoda	Solenoceridae	<i>Solenocera</i> sp.	M1	Very sparse

Appendicularia		Fritillariidae	<i>Fritillaria sp.</i>	U1	Very sparse
		Oikopleuridae	<i>Oikopleura sp.</i>	U2	Very sparse
Oligohymenophorea	Sessilida	Zoothamniidae	<i>Zoothamnium sp.</i>	CI1	Very sparse
Copepoda			Nauplius larvae of copepods	L1	Dominant
Malacostraca			Brachyuran zoea	L2	Sparse
Decapoda					
Maxillopoda			Cirripede larvae	L3	Very sparse
Thecostraca					
			Cyphonautes larvae	L4	Very sparse
			Ophiopluteus larvae	L5	Very sparse
Gastropoda			Opisthobranchia larvae	L6	Very sparse
Streptoneura					
Polychaeta			Trochophore larvae	L7	Sparse
Pelecypoda			Veliger larvae of bivalves	L8	Very sparse

TABLE:-69 SYSTEMATIC ACCOUNT OF ZOOPLANKTON FROM THE SAMPLING LOCATIONS OF DPA OOT AREA AT PATH FINDER CREEK AND NEARBY SPM AT VADINAR DURING NEAP TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	RELATIVE ABUNDANCE
Spirotrichea	Tintinnida	Tintinnidiidae	<i>Leptotintinnus</i> sp.	T1	Sparse
		Codonellidae	<i>Tintinnopsis failakkaensis</i>	T2	Very sparse
			<i>Tintinnopsis gracilis</i>	T3	Very sparse
			<i>Tintinnopsis radix</i>	T4	Very sparse
			<i>Tintinnopsis tocanensis</i>	T5	Very sparse
		Tintinnidae	<i>Amphorellopsis</i> sp.	T6	Very sparse
		Xystonellidae	<i>Favella</i> sp.	T7	Very sparse
Crustacea Subclass: Copepoda	Calanoida	Paracalanidae	<i>Acrocalanus</i> sp.	C1	Scattered
			<i>Parvocalanus</i> sp.	C2	Very sparse
	Cyclopoida	Oithonidae	<i>Oithona</i> sp.	C3	Abundant
	Harpacticoida	Euterpinae	<i>Euterpina</i> sp.	C4	Very sparse
		Ectinosomatidae	<i>Microsetella</i> sp.	C5	Very sparse
	Poecilostomatoida	Oncaeidae	<i>Oncaea</i> sp.	C6	Very sparse
Sagittoida	Aphragmophora	Sagittidae	<i>Sagitta</i> sp.	A1	Very sparse
Appendicularia		Fritillariidae	<i>Fritillaria</i> sp.	U1	Very sparse
		Oikopleuridae	<i>Oikopleura</i> sp.	U2	Very sparse
Copepoda			Nauplius larvae of copepods	L1	Dominant
Maxillopoda Thecostraca			Cirripede larvae	L2	Very sparse
Gastropoda Streptoneura			Opisthobranchia larvae	L3	Very sparse
Polychaeta			Trochophore larvae	L4	Very sparse
Pelecypoda			Veliger larvae of bivalves	L5	Very sparse

TABLE:-70 SYSTEMATIC ACCOUNT OF ZOOPLANKTON FROM THE SAMPLING LOCATIONS OF DPA OOT AREA AT PATH FINDER CREEK AND NEARBY SPM AT VADINAR DURING SPRING TIDE OF NOVEMBER 2022:

CLASS	ORDER	FAMILY	GENUS/SPECIES	#	RELATIVE ABUNDANCE
Spirotrichea	Tintinnida	Tintinnidiidae	<i>Leprotintinnus</i> sp.	T1	Abundant
		Codonellidae	<i>Tintinnopsis gracilis</i>	T2	Very sparse
			<i>Tintinnopsis mortensenii</i>	T3	Very sparse
			<i>Tintinnopsis radix</i>	T4	Very sparse
		Xystonellidae	<i>Favella</i> sp.	T5	Scattered
Crustacea Subclass: Copepoda	Calanoida	Paracalanidae	<i>Acrocalanus</i> sp.	C1	Sparse
			<i>Parvocalanus</i> sp.	C2	Very sparse
		Centropagidae	<i>Centropages</i> sp.	C3	Very sparse
		Tortanidae	<i>Tortanus</i> sp.	C4	Very sparse
	Cyclopoida	Oithonidae	<i>Oithona</i> sp.	C5	Abundant
		Euterpinae	<i>Euterpina</i> sp.	C6	Very sparse
	Harpacticoida	Ectinosomatidae	<i>Microsetella</i> sp.	C7	Scattered
	Poecilostomatoida	Corycaidae	<i>Corycaeus</i> sp.	C8	Very sparse
Appendicularia		Fritillariidae	<i>Fritillaria</i> sp.	U1	Very sparse
		Oikopleuridae	<i>Oikopleura</i> sp.	U2	Very sparse
Oligohymenophorea	Sessilida	Zoothamniidae	<i>Zoothamnium</i> sp.	CI1	Very sparse
Copepoda			Nauplius larvae of copepods	L1	Dominant
Malacostraca Decapoda			Brachyuran zoea	L2	Very sparse
Gastropoda Streptoneura			Opisthobranchia larvae	L3	Very sparse
Pelecypoda			Veliger larvae of bivalves	L4	Very sparse

BENTHIC ORGANISMS:

Few Benthic organisms were observed in the collected sediments by using the Van-Veen grabs during the sampling conducted during spring tide period and Neap tide period from DPA harbour region and nearby creek. The Meio-benthic organisms during spring tide were represented by Polychaetes *Tharyx sp.* and *Nereis sp.*, during Neap tide by *Nereis sp.* and few Amphipods. Population of benthic fauna was varying from 10-60- N/m² during spring tide and 0-80 N/m² during Neap tide. The benthic communities at path finder Creek were represented by Polychaetes *Glycera sp.* *Cirratulus sp.* *Nereis sp.* and few Amphipods. Their population was varying as 60 N/m² at OOT jetty premises and 80 N/m² near the SPM area during spring tide and 50 N/m² at OOT jetty premises and 50 N/m² near the SPM area during Neap tide period.

Table:-71 BENTHIC FAUNA IN THE SAMPLING LOCATIONS IN DPA HARBOUR AREA CREEKS DURING SPRING TIDE IN NOVEMBER 2022

ABUNDANCE IN NO/M ² DIFFERENT SAMPLING STATIONS						
REPRESENTATION BY GROUP	DPA HARBOUR			CREEKS		
Benthic fauna						
POLYCHAETES	DPA-1	DPA-2	DPA-3	DPA-4	DPA-5	DPA-6
Family : CIRRATULIDAE <i>Tharyxsp.</i>	20	10	10	0	0	NS
Family :NEREIDAE <i>Nereis sp.</i>	0	0	0	20	40	NS
AMPHIPODA	0	0	0		20	NS
TOTAL Benthic Fauna NUMBER/ M ²	20	10	10	20	60	NS

NS: No sample

Table:-72 BENTHIC FAUNA IN THE SAMPLING LOCATIONS IN DPA HARBOUR AREA CREEKS DURING NEAP TIDE IN NOVEMBER 2022

ABUNDANCE IN NO/M ² DIFFERENT SAMPLING STATIONS						
REPRESENTATION BY GROUP	DPA HARBOUR			CREEKS		
Benthic fauna						
POLYCHAETES	DPA-1	DPA-2	DPA-3	DPA-4	DPA-5	DPA-6
Family :NEREIDAE <i>Nereis sp.</i>	0	0	0	40	60	NS
<i>Amphipoda</i>	0	20	10	10	20	NS
TOTAL Benthic Fauna NUMBER/M ²	0	20	10	50	80	NS

**Table:-73 BENTHIC FAUNA IN THE SAMPLING LOCATIONS IN DPA OOT JETTY AREA,
VADINAR DURING SPRING TIDE IN NOVEMBER 2022**

ABUNDANCE IN NO/M ² DIFFERENT SAMPLING STATIONS		
REPRESENTATION BY GROUP	OOT Jetty Area	SPM area
POLYCHAETES		
Family : Glyceride <i>Glycerasp.</i>	20	40
Family : CIRRATULIDAE <i>Cirratulussp.</i>	0	20
Family: NEREIDAE <i>Nereis sp.</i>	30	10
<i>Amphipoda</i>	10	20
TOTAL Benthic Fauna NUMBER/ M ²	60	80

**Table:-74 BENTHIC FAUNA IN THE SAMPLING LOCATIONS IN DPA OOT JETTY AREA,
VADINAR DURING NEAP TIDE IN NOVEMBER 2022**

ABUNDANCE IN NO/M ² DIFFERENT SAMPLING STATIONS		
REPRESENTATION BY GROUP	OOT Jetty Area	SPM area
POLYCHAETES		
Family : Glyceridase <i>Glycera sp.</i>	20	40
Family: NEREIDAE <i>Nereis sp.</i>	30	10
TOTAL Benthic Fauna NUMBER/ M ²	50	50

CHAPTER-11

CONCLUSIVE SUMMARY & REMEDIAL MEASURES

11.0 Conclusive Summary and Remedial measures Suggested

- The AAQ monitoring of six locations at Deendayal Port Authority indicates that the mean PM_{10} and $PM_{2.5}$ values for four locations viz. Marine Bhavan, Oil Jetty, Estate Office and Coal storage area were found higher than the permissible limit (standards $100 \mu\text{g}/\text{m}^3$, $60 \mu\text{g}/\text{m}^3$). The higher concentration of Particulate matter at Marine Bhavan may be due to vehicles emissions during loading-unloading of food grains and timbers; at Estate office due to construction work, vehicles emission produced from trucks, heavy duty vehicles that pass through the road outside Kandla port and Oil jetty area; while at Coal Storage area lifting of coal from grab yard and other coal handling processes. Moreover, the transportation of coal produces pollution from heavy vehicles. At Tuna Port location, concentration of PM_{10} varied from $88-175 \mu\text{g}/\text{m}^3$ and mean value was observed $145 \mu\text{g}/\text{m}^3$ which was exceed the prescribed standard limit ($100 \mu\text{g}/\text{m}^3$), concentration of $PM_{2.5}$ was ranged from $47-87 \mu\text{g}/\text{m}^3$ and mean was found $71 \mu\text{g}/\text{m}^3$ which was exceed the standard limit ($60 \mu\text{g}/\text{m}^3$). At Gopalpuri PM_{10} concentration ranged from $67-168 \mu\text{g}/\text{m}^3$ and mean was $127 \mu\text{g}/\text{m}^3$ while $PM_{2.5}$ concentration ranged from $34-94 \mu\text{g}/\text{m}^3$ and mean was $66 \mu\text{g}/\text{m}^3$ were found exceed standard limit prescribed by NAAQS.
- At Vadinar, the average concentration of PM_{10} was $114 \mu\text{g}/\text{m}^3$ and $PM_{2.5}$ was $74 \mu\text{g}/\text{m}^3$ at Admin Colony which was slightly exceed the standard limit while at Signal building the mean concentration PM_{10} was $100 \mu\text{g}/\text{m}^3$ and $PM_{2.5}$ was $61 \mu\text{g}/\text{m}^3$ which were very close to standard limit.
- During winter, the concentration of PM_{10} and $PM_{2.5}$ has been slowly augmented and reached a peak in the evening due to surface inversion of temperature after sunset. Thus, the pollutants are subsequently trapped in the lower layer of the atmosphere due to high atmospheric air pressure.
- Further, precautionary measures and management strategies to minimize the effect of particulate as well as gaseous pollutants have also been suggested for achieving its ambient levels in and around Kandla Port and Vadinar Port, Gujarat, India.
- Drinking water at all the twenty locations was found potable and it was found within in line of BIS standards (IS: 10500-2012).
- Transportation systems are the main source of noise pollution in project areas. Noise sources in port operations include cargo handling, vehicular traffic, and loading / unloading

containers and ships. All sampling location were within the permissible limit day time 75 dB (A) and night time 70 dB (A) for the industrial area.

- The treated sewage water of Kandla STP, Deendayal Port Colony (Gopalpuri) STP and Vadinar were in line with the standards set by the Central Pollution Control Board.
- It was suggested to monitor the STP performance on regular basis to avoid flow of contamination / Polluted water into the sea.
- Good species diversity suggests a relatively successful species in this habitat. A greater number of successful species and a more stable ecosystem. More ecological niches are available and the environment is less likely to be hostile complex food webs environmental change is less likely to be damaging to the ecosystem as a whole.
- The results obtained from the study for biological and ecological parameters in marine water for Arabian Sea at surrounding area of Deendayal Port Authority (DPA) Kandla and Vadinar were not affected by Port activities.
- The mean day time temperature at Deendayal Port was 27.92 °C. The day-time maximum temperature was 32.9°C and minimum was 21.1 °C. The mean night time temperature recorded was 25.47 °C. The night-time maximum temperature was 29.7°C and minimum was 20.0 °C. The mean Solar Radiation in November month was 167.27 w/m². The maximum solar radiation was recorded 759 w/m² in 4th November, 2022 and the minimum solar radiation was recorded 1.80 w/m² in 30th November, 2022. The mean Relative humidity was 69.00 % for the month of November. Maximum Relative humidity was recorded 99.0 % and minimum Relative humidity was recorded 34.0 %. The average wind velocity for the entire month of November was 1.21 m/s. Maximum wind velocity was recorded 10.19 m/s. The wind direction was mostly North-East.
- The results obtained from the study for the month of November 2022 for biological and ecological parameters in marine water for Arabian Sea at surrounding area of Deendayal Port Authority (DPA) Kandla and Vadinar were not affected by Port activities.

Reasons for higher Values of PM₁₀

- The unloading of coal directly in the truck, using grabs cause coal to spread in air as well as coal dust to fall on ground. This settled coal dust again mixes with the air while trucks travel through it.

- Also, the coal loaded trucks were not always covered with tarpaulin sheets and these results in spillage of coal from trucks/dumpers during its transit from vessel to yard or storage site. This also increased PM values around marine Bhavan & Coal storage area.

Remedial Measures

The values of PM₁₀ & PM_{2.5} during the month of November, 2022 were beyond the standard limit at all locations (Coal Storage, Marine Bhavan, Oil Jetty and Estate office, Tuna Port) except Gopalpuri the concentration of particulate matter was slightly exceed. Given below are the remedial measures suggest to minimize the Air pollution.

- During November, 2022 overall ambient air quality of the DPA was within CPCB permissible limits except TSPM, PM₁₀, PM_{2.5} at Coal storage area, Marine Bhavan, Oil Jetty and Estate Office. To improve air quality the port was using number of precautionary measures, such as maintained a wide expanse of Green zone, initiated Inter-Terminal Transfer (ITT) of tractor-trailers, Centralized Parking Plaza, providing shore power supply to tugs and port crafts, the use of LED lights at DPA area helps in lower energy consumption and decreases the carbon foot prints in the environment, time to time cleaning of paved and un paved roads, use of tarpaulin sheets to cover dumpers at project sites etc. are helping to achieve the cleaner and green future at port.

Solution towards the Green port:

Today, it is increasingly recognized that air pollution hurts human health. Consequently, efficient mitigation strategies need to be implementation for substantial environmental and health co-benefits.

The guidelines can be considered a basis for governments for the implementation of a strategic plan focused on the reduction of multi pollutant emission, as well as of the overall air pollution related risk.

- The plantation should be all along the periphery of the port and inside and outside the port along with the road. Trees having high dust trapping efficiency (*Azadirachta indica*, *Cassia fistula*, *Delonix regia*, *Ficus religiosa*, *Pterocarpus marsupium*) are to be grown alongside the roads.
- The water sprinkling should be use at each and every stage of transporting coal up the loading of truck to avoid generation of coal dust.

- The vehicles should be covered during transportation and the vehicle carrying the coal should not be overloaded by raising the height of carriage.
- The water sprinklers should be use during transportation of loaded heavy vehicles on raw road.
- It should be ensure that regular sweeping of coal internal, main road and space a free circulation.
- Practice should be initiated for using mask as preventative measure, to avoid Inhalation of dust particle- Mask advised in sensitive areas.
- Department for use maintenance should have a routine checkup noise level by replacing bearings, tights of all loose parts that can vibrate.
- Speed control is also an effective way to mitigate noise pollution, the lowest sound emission arise from vehicles moving smoothly.
- Use of renewable energy like solar energy should be optimal and ensure to work continuously.
- Keep neat and clean public transport and all basic items at public interaction places as much as possible.
- Technology like Electric cart, Inter-Terminal Transfer (ITT) are worthy selection to reduce Port operation efficiency and fuel cost.
- Conventional RTGCs should be altered as E-RTGCs counting inside the port completely.
- Initiate Natural Gas (CNG) as fuel by all buses and trucks.

Green Ports Initiative

- Deendayal Port is committed to sustainable development and adequate measures are being taken to maintain the Environmental well-being of the Port and its surrounding environs. Weighing in the environmental perspective for sustained growth, the Ministry of Shipping had started “Project Green Ports” which will help in making the Major Ports across India cleaner and greener. “Project Green Ports” will have two verticals - one is “Green Ports Initiatives” related to environmental issues and second is “Swachh Bharat Abhiyaan”.
- The Green Port Initiatives include twelve initiatives such as preparation and monitoring plan, acquiring equipments required for monitoring environmental pollution, acquiring dust suppression system, setting up of waste water treatment plants/ garbage disposal plant, setting up Green Cover area, projects for energy generation from renewable

energy sources, completion of shortfalls of Oil Spill Response (OSR) facilities (Tier-I), prohibition of disposal of almost all kind of garbage at sea, improving the quality of harbour wastes etc.

- Deendayal port has also appointed GEMI as an Advisor for “Making Deendayal Port a Green Port - Intended Sustainable Development under the Green Port Initiatives.
- Deendayal Port has also signed MOU with Gujarat Forest Department in August 2019 for Green Belt Development in an area of 31.942 Ha of land owned by Deendayal Port Trust. The plantation is being carried out by the Social Forestry division of Kachchh.

CHAPTER-12

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12.0 SOURCE OF LITERATURE AND ADDITIONAL REFERENCE

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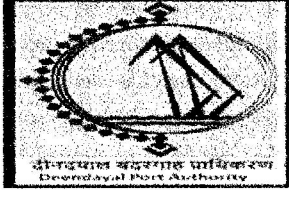
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Annexure -IV

DEENDAYAL PORT AUTHORITY



Administrative Office Building
Post Box NO. 50
GANDHIDHAM (Kutch).
Gujarat: 370 201.
Fax: (02836) 220050
Ph.: (02836) 220038

www.deendayalport.gov.in

NO.EG/WK/4751/Part (Greenbelt-GUIDE) 196

Dated : 31/5/2022

✓ M/S Gujarat Institute of Desert Ecology,
P.O.Box No. 83,
Opp. Changleshwar Temple, Mundra Road,
Bhuj (Kachchh)- 370 001, Gujarat (India).
Tel.: 02832-329408, 235025.
Tele/Fax: 02832-235027

Email: desert_ecology@yahoo.com

Kind Attn.: Dr.V.Vijay Kumar, Director, M/s GUIDE, Bhuj.

Sub: Greenbelt Development in Deendayal Port Authority and its Surrounding Areas Charcoal site (Phase-I).

Ref.: M/s GUIDE, Bhuj offer vide letter no. M/s GUIDE, Bhuj vide communication no. GUIDE/DPA/GRN/080/2022-23 dated 24/5/2022.

Sir,

Your offer for the subject work submitted vide above referred letter dated 24/5/2022 amounting to Rs. 38,22,900.00 + applicable GST (Rupees Thirty-Eight Lakhs Twenty-Two Thousand and Nine Hundred Only Plus Eighteen Percent GST), with all terms & conditions mentioned in the offer letter, has been accepted (**Copy of offer letter M/s GUIDE attached**).

2. Scope of work:

Development of Greenbelt in Charcoal site – Kandla, DPA and its surrounding areas. The activities under the Greenbelt Development include; inventory of suitable sites for greenbelt development in DPA, soil & Moisture conservation and management at Plantation sites, selection of suitable species of Plants for plantation, Procurement and plantation of plant saplings and seeds (5000 plants), along with management and monitoring of plantation, including drip/tanker water supply for a period 1 year.

.....Cont.....

3. Obligation of Deendayal Port Authority :

- Assistance regarding the statutory clearance from authorities concerned to be rendered by DPA for field visits/plantation activities.

4. The Terms of Payment:

1. 50% of the project budget to be paid to GUIDE within 15 days from the date of acceptance of Work order by GUIDE.
2. 20% of the project budget to be paid to GUIDE within 15 days from the date of completion of plantation works.
3. 20% of the project budget to be paid to GUIDE within 15 days from the date of submission Progress Report (December 2022).
4. 10% of the project budget to be paid to GUIDE within 15 days from the date of submission of Final Completion Report (May 2023).

5. Time Period : One year (from 5/6/2022 to 4/6/2023).

6. Kindly send the acceptance of this work order & start the work w.e.f. 5/6/2022 .

Thanking you.

Yours faithfully,



Superintending Engineer (PL) & EMC (I/c)
Deendayal Port Authority

Copy To :1) A.O.(W/A) - The proposal has been approved by the Board in its meeting held on 27/5/2022.

The expenditure shall be charged to the scheme
Environmental Services & Clearance thereof
(Allocation: 841/587/9744 WC - 5-13001).

2) TPA to CE for kind information of the Chief Engineer, please.

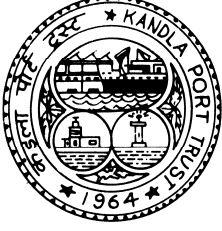
3) DA (PL) for further necessary action.

4) M/s Precitech Laboratorie ,Vapi, Environmental Management
Cell to coordinate with M/s GUIDE,Bhuj.

5) RAO, DPA

Annexure -V

DEENDAYAL PORT TRUST



Administrative Office Building
Post Box NO. 50
GANDHIDHAM (Kutch).
Gujarat: 370 201.
Fax: (02836) 220050
Ph.: (02836) 220038

www.deendayalport.gov.in

NO.EG/WK/4783/V/131

Dated : 05/02/2021

To,
M/s Precitech Laboratories Pvt Ltd,
1st Floor, Bhanujyot Complex,
Plot No C5/27, B/h Panchratna Complex,
Nr. GIDC Char Rasta,
VAPI-396195.

Sub: **Work order** for "STRENGTHENING OF EXISTING ENVIRONMENTAL MANAGEMENT CELL AT DEENDAYAL PORT TRUST: Appointment of environment experts for two years further extendable for one year"-**reg.**

Ref: 1) Tender dated 21.06.2019 submitted by M/s Precitech Laboratories Pvt.Ltd, Vapi.
2) Letter of Acceptance vide no-EG/WK/4783/V/100 dtd 01(04).01.2021
3) Letter from DPT no E/WK/4783/V/103 dtd 06.01.2021
4) Performance Guarantee submitted by M/s Precitech Laboratories Pvt Ltd in the form of Bank Guarantee of Rs. 3,60,000.00 vide Bank Guarantee no. 1102921BG0000016 dated 19.01.2021 issued by State Bank of India, Vapi.

Sir,

Kindly refer above cited Letter of Acceptance dtd 01(04).01.2021.

- 2) You shall have to provide Key Experts as per tender requirement during the entire contract period. Accordingly, you shall have to submit the qualification and experience certificates of the Key experts to be appointed at DPT, as per tender conditions for verification & approval.
- 3) Please submit the Agreement of contract as per tender conditions no 1.29.
- 4) Kindly commence the work on or before 15.02.2021.


.....Cont.....

- 2 -

Please note that the time period for providing Consultancy services for the subject work will be initially for two years and further extendable for one year on mutual consent as per tender conditions.

Thanking you.

Yours faithfully,


Superintending Engineer (Design & EMC (i/c))
Deendayal Port Trust

Annexure -VI

DEENDAYAL PORT TRUST

ISO 9001 : 2008 ; ISO 14001 : 2004

Ph. : 02836-220167

Fax: 02836-233172

website: deendayalport.gov.in

e-mail : secretary@deendayalportgov.in



General Administration Deptt.
Administrative Office Building,
Post Box No. 50,
Gandhidham (Kutch) 370 201

By Speed Post / E-mail

No. GA/PS/4292/HE(PF)/2017/ 304

Dated, 17 January, 2022

OFFER OF CONTRACTUAL ENGAGEMENT AS MANAGER(ENVIRONMENT), IN DEENDAYAL PORT TRUST.

With Reference to your application for contractual engagement as Manager – Environment, in response to the advertisement, inviting applications for the subject position, on assessment and interview before the Services Selection Committee on 06.01.2022, the Competent authority has been pleased to offer the contractual engagement as Manager (Environment) in Deendayal Port Trust, purely on contractual basis, subject to the following terms and conditions :

a) Roles & Responsibilities

- Develop, implement and manage long term port environmental programmes such as the Green Marine Programme, sustainability plan, air strategies, tenant environment plan and tenant lease management.
- Represent the Port in local, state and federal agency meetings.
- Assist in the development and updating of the Port's comprehensive scheme of Harbour improvements and strategic plan.
- Monitor and conduct regular mock drills to train the employees at different levels.

b) Remuneration :-

Your consolidated remuneration per month will be Rs.1,00,000/- (Rupees One Lakh Only). Suitable increase depending upon the performance and variation in the AICP index may be given after successful completion of yearly service. Applicable taxes will be deducted at the time of payment.

c) Period of Contract :

The contract will be for a period of 3 years, extendable by another two years, subject to satisfactory performance.

d) Duty Hours :

You may be posted at/under any department/authority of Deendayal Port Trust, as per requirement, Duty Hours are from 10.00 AM to 06.00 PM or as may be decided by the Administration from time to time. In case of requirement, you may have to work beyond the normal duty hours, for which no other compensation, monetary or otherwise will be considered.

.....
(Mukkannawar Utkarsh Suresh)

Contd....

You will normally be entitled to a weekly off on Sunday. If situation warrants, the weekly day of rest may be changed with prior intimation. For work on any weekly day off / declared national holiday in exigencies of work, a compensatory day of rest as per the convenience of the Administration, in lieu thereof, will be granted and for which no other compensation, monetary or otherwise will be considered.

Failure to report for duty will entail deduction of wages on pro-rata basis.

- e) Medical facility : Only Outdoor Medical treatment facility for self and your spouse will be provided in the Port Trust Hospital. No other medical facilities will be provided to you/ your family.
- f) Leave entitlement : 10 days leave in a year and National Holidays will be given. No other leave will be admissible and for any absence beyond the said leave, pro-rata deduction will be made from the consolidated remuneration.
- g) Accommodation : Suitable accommodation, if available, may be provided, subject to recovery of charges under FR-45A, and the element of HRA excluded from the lumpsum remuneration.
- h) Your engagement on contractual basis is subject to strict adherence to the norms and conduct.
- i) The engagement can be terminated by giving one month's notice in writing from either side. However, in case of unsatisfactory performance or for any act considered derogatory/ detrimental to the interest of Deendayal Port Trust, this contractual engagement will be terminated forthwith.
- j) If you leave without notice or without acceptance of notice of termination, the amount due i.e., consolidated remuneration payable will be forfeited.
- k) You shall not claim any right/title/interest on par with the regular employees of the Port or otherwise.
- l) You shall not have any claim/right whatsoever for regular appointment / absorption in Deendayal Port Trust under any circumstances.
- m) Your contractual engagement is subject to verification of antecedents by the police. If any adverse report is received from the Police, your contractual services are liable to be terminated forthwith.
- n) You will not be permitted to take any other assignment during the period of contract with Deendayal Port Trust.

.....
(Mukkannawar Utkarsh Suresh)

Contd....

- l) On official tour outside Head Quarters, you will be entitled to TA/DA as admissible under the rules.
- m) The terms and conditions shall be amended / modified depending upon the requirement of the Port. Any dispute(s)/difference(s) shall be decided solely by the Chairman, Deendayal Port Trust, which shall be final and binding.
- n) You are required to submit discharge letter / relieving letter from your present employer at the time of joining Deendayal Port Trust, without you may not be allowed to join.
- o) The contractual engagement is subject to your being found medically fit as per the requirements of Deendayal Port Trust.

2. You have to report for medical examination before the Medical Board of DPT at Gopalpuri Hospital on any working day between 10.00 hrs to 12.00 hrs.

3. If you agree to the above terms and conditions, you may convey acceptance by signing the duplicate of the letter in token of your acceptance and submit the same to this office and call at this office with all certificates and two copies of passport size photographs latest by 27th January, 2022 failing which the offer of contractual engagement stands automatically cancelled.


Secretary
Deendayal Port Trust

To
Shri. Mukkanawar Utkarsh Suresh,
21/1, Madhukunj Housing Society,
Near Canara Bank, Panchavati,
Pashan, Pune, Maharashtra - 411008.
Email : utkaish@gmail.com

I accept the above terms and conditions and will report for duty on _____.

Name :

Date :

Copy to: CMO - for conducting Medical Examination.