



M/s. ADANI KRISHNAPATNAM PORT LIMITED,

Muthukuru (M), SPSR Nellore Dis., Andhra Pradesh

Half yearly Compliance Report

on the Conditions Stipulated in

Environmental & CRZ clearance,

Consent to Establishment & Consent to Operation

For the period from April 2023 to September 2023

Adani Krishnapatnam Port Limited

Muthukuru (M),

SPSR Nellore Dist.,

Andhr Pradesh – 524 344

Phone: +91-891-2377999

Fax: +91-891-237 7046

Submitting to:

Ministry of Environment,
Forest & Climate Changes.

Andhra Pradesh
Pollution Control Board.



*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

CHAPTER -1

1.0 Introduction

- AKPL is an ISMS Certified Port in relation to Core Port Operations – Information Technology, HR & Admin., Finance & Account, Safety & Environment, Security, Engineering Services, Dry Cargo Operations, Dredging, Commercial & Stores, Container Operations, Marine Services, Railway Operations.
- AKPL is an ISO 28000: 2007, ISO 9001:2015, ISO 14001 2015, ISO 45001:2018, and ISO 50001:2018, Certified Port for providing Port facilities for berthing, double banking, handling of ships, bulk, breakbulk, liquid and containerized cargos, its storage and transportation by road, rail, pipeline and conveyor.



IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Occupational Health & Safety Management Systems of

Organisation: Adani Krishnapatnam Port Limited

Address: PO Bag No. 1, Muthukur (M)
SPSR Nellore Dt - 524344

has been assessed and found conforming to the following requirement

Standard: ISO 45001:2018

Scope: Providing Port Facilities for Berthing, Double Banking, Handling of Ships, Bulk, Break Bulk, Liquid and Containerized Cargos, Its Storage and Transportation by Road, Rail, Pipeline and Conveyor

Certificate No.: IRQS/210400266

Original Certification Date: 20/02/2012

Current Date of Granting: 19/02/2021

Expiry Date: 18/02/2024

 
Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Occupational Health and Safety Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Certification Mark indicates conformance with respect to activities covered by the certificate with accreditation no. 024005 (01) Certification Council (024005/04/2004/Rev 01)
Head Office: 52A, Adl Shankaracharya Marg, Opp.Powal Lake, Powal, Mumbai - 400 072, India.

IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

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(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Quality Management Systems of

Organisation: Adani Krishnapatnam Port Limited

Address: PO Bag No. 1, Muthukur (M)
SPSR Nellore Dt - 524344

has been assessed and found conforming to the following requirement

Standard: ISO 9001:2015

Scope: Providing Port Facilities for Berthing, Double Banking, Handling of Ships, Bulk, Break Bulk, Liquid and Containerized Cargos, Its Storage and Transportation by Road, Rail, Pipeline and Conveyor

Certificate No.: IRQS/210100264

Original Certification Date: 20/02/2012

Current Date of Granting: 19/02/2021

Expiry Date: 18/02/2024

 
Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Quality Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Certification Mark indicates conformance with respect to activities covered by the certificate with accreditation no. 024005 (01) Certification Council (024005/04/2004/Rev 01)
Head Office: 52A, Adl Shankaracharya Marg, Opp.Powal Lake, Powal, Mumbai - 400 072, India.

IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Supply Chain Security Management Systems of

Organisation: Adani Krishnapatnam Port Limited

Address: P.O. Bag No.1, Muthukur Mandal,
SPSR Nellore District - 524344,
Andhra Pradesh, India

has been assessed and found conforming to the following requirement

Standard: ISO 28000:2007

Scope: Providing Port facilities for berthing, double banking, handling of ships, bulk, break bulk, liquid and containerized cargos, its storage and transportation by road, rail, pipeline and conveyor

Certificate No.: IRQS/210900752

Original Certification Date: (discontinued)

Current Date of Granting: 11/06/2021

Expiry Date: 10/06/2024

  
Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Supply Chain Security Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Certification Mark indicates conformance with respect to activities covered by the certificate with accreditation no. 024005 (01) Certification Council (024005/04/2004/Rev 01)
Head Office: 52A, Adl Shankaracharya Marg, Opp.Powal Lake, Powal, Mumbai - 400 072, India.

IRCLASS
SYSTEMS AND SOLUTIONS PRIVATE LIMITED

CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Energy Management Systems of

Organisation: Adani Krishnapatnam Port Limited (AKPL)

Address: Adani Krishnapatnam Port Limited (AKPL)
P.O. Bag No.1, Muthukur Mandal,
SPSR Nellore District - 524344,
Andhra Pradesh

has been assessed and found conforming to the following requirement

Standard: ISO 50001:2018

Scope: Providing Port Facilities for Berthing, Double Banking, Handling of Ships, Bulk, Break Bulk, Liquid and Containerized Cargos, Its Storage and Transportation By Road, Rail, Pipeline and Conveyor

Certificate No.: IRQS/221001181

Initial Certification Date: 30/11/2022

Current Date of Granting: 30/11/2022

Expiry Date: 29/11/2025

   
Shashi Nath Mishra
Head IRQS

This approval is subject to continued satisfactory maintenance of the Energy Management Systems of the organization to the above standard which will be monitored by IRQS. The use of the Certification Mark indicates conformance with respect to activities covered by the certificate with accreditation no. 024005 (01) Certification Council (024005/04/2004/Rev 01)
Head Office: 52A, Adl Shankaracharya Marg, Opp.Powal Lake, Powal, Mumbai - 400 072, India.

1.1 Classification of the Port

As per the Environment Impact Assessment (EIA) Notification dated 14th September 2006 and the amendments thereof, Krishnapatnam port is classified under 'Category A' as schedule under activity 7(e).

1.2 Project Location

AKPL located at 14° 15'10" N Latitude and 80° 08'05" E Longitude in the state of Andhra Pradesh, SPSR Nellore District, Muthkuru along east coast of India about 180 km to north of Chennai Port.

AKPL has easy access to the hinterlands in close proximity covering Andhra Pradesh, Karnataka and North Tamil Nadu by road, rail and air. It has become the largest automated port in the South Asia.

Port location, port limits and approved Master Plan of AKPL is shown in

Figure 0:1 to Figure 0:3.

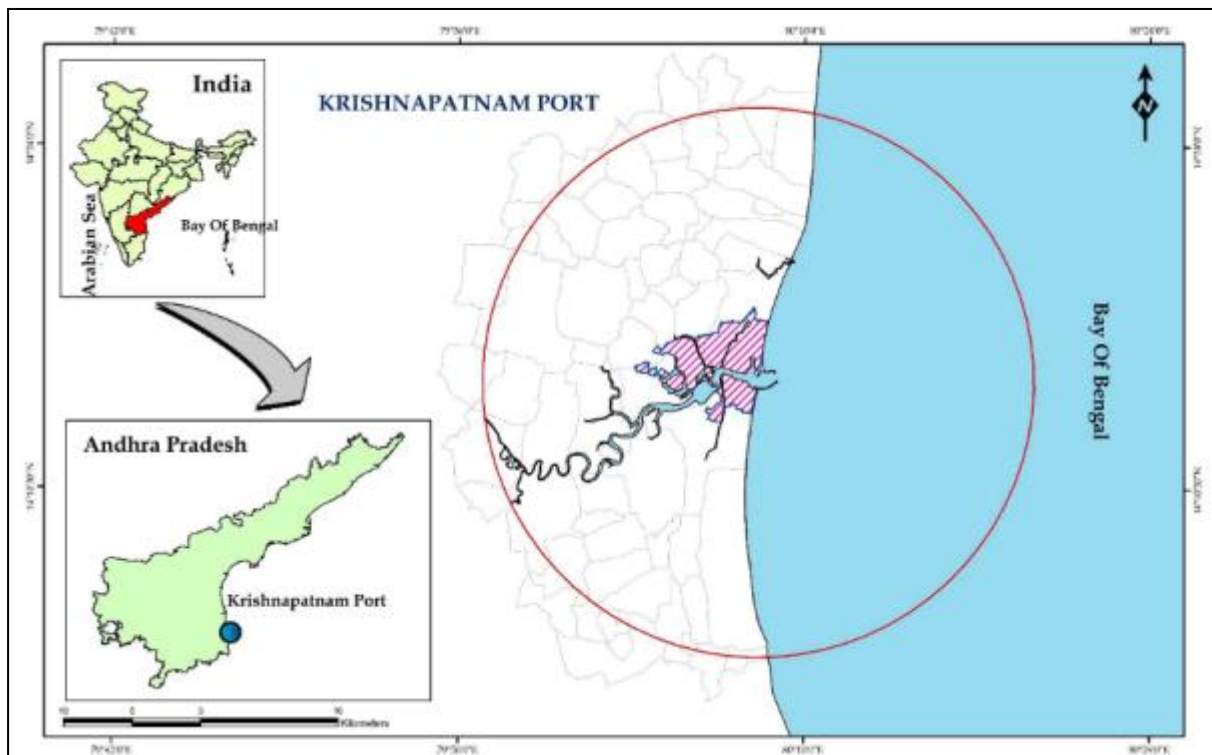


Figure 0:1 Port Location

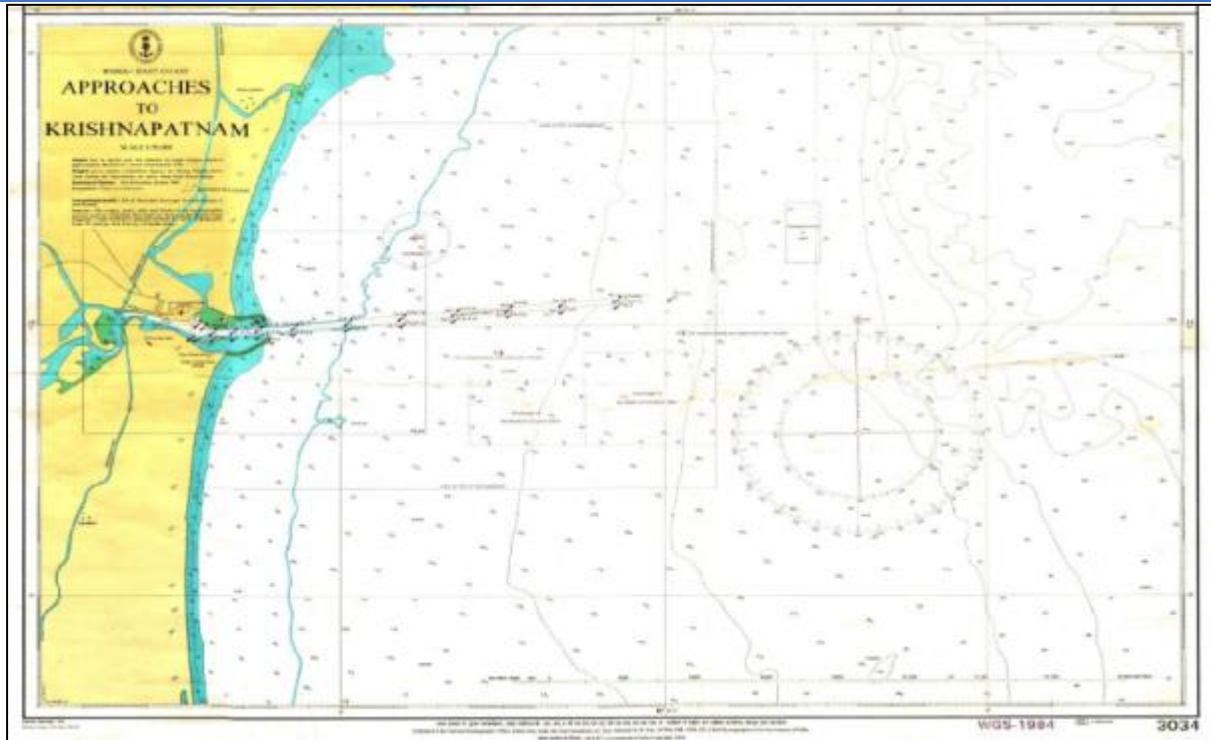


Figure 0:2 Port limits of AKPL

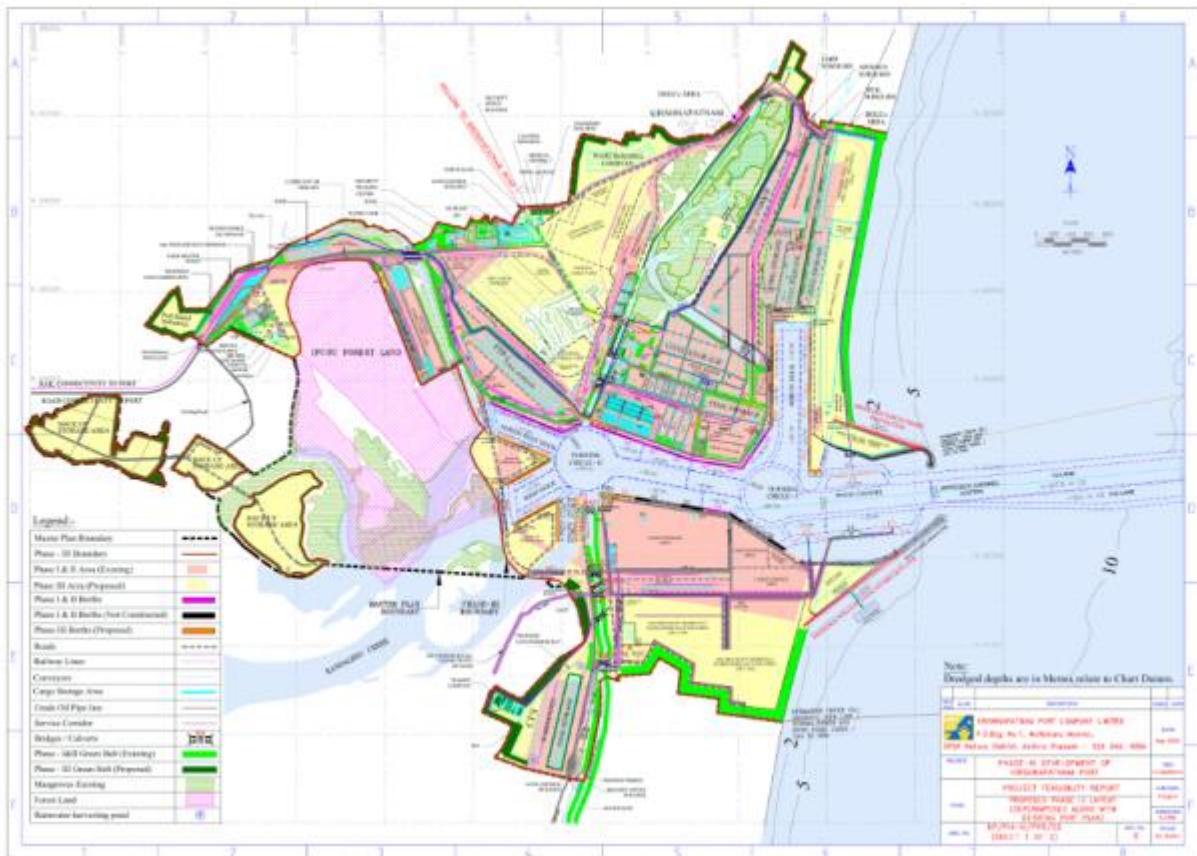


Figure 0:3 Approved Layout

1.3 Purpose of the Report

- As per the MoEF& CC. S.O. 3067 (E) dated 1st December 2009, it shall be mandatory for the Project Proponent to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.
- As per the MoEF& CC. S.O. 5845 (E) dated 26th Nov, 2018 the Project Proponent shall submit half-yearly (six monthly) compliance reports in soft copy instead of hard copy.
- As per the MoEF & CC. S.O. 3067 (E) dated 1st December 2009, it shall be mandatory for the Project Proponent to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.
- As per the MoEF & CC. S.O. 5845 (E) dated 26th Nov, 2018 the Project Proponent shall submit half-yearly (six monthly) compliance reports in soft copy instead of hard copy.
- As per the newspaper notification issued by APPCB on 07.09.2019, (Hindu & Eenadu) that - “all the Red & Orange category industries (other than stone crusher & mining units) existing in State of Andhra Pradesh, to furnish the half yearly compliance reports to all the stipulated conditions in Environmental Clearance (EC), and Consent to Establishment (CTE) and Consent to Operation (CTO) through website i.e., <https://pcb.ap.gov.in> by 1st of January and 1st of July of every year.
- The first half yearly compliance reports shall be furnished by the industry and second half yearly compliance reports shall be the audited through NABL accredited third party.
- As per the newspaper notification issued by the MoEF&CC on 15.09.2019, the project proponent of Andhra Pradesh State shall send their compliance reports to ecompliance-ap@gov.in
- As per the Consent to Operation Order of APPCB, dated 08.06.2009, the industry shall submit half yearly compliance reports to all the stipulated conditions in Environmental Clearance (EC), Consent for Establishment (CTE) and Consent to Operation (CTO) through website i.e., <https://pcb.ap.gov.in> by 1st of January and 1st July of every year. The first half yearly compliance reports shall be furnished by the industry and second half yearly compliance reports shall be the audited through NABL accredited third party.
- As per the additional conditions stipulated in renewed CFO & HWA Order of APPCB, dated 02.02.2011, CFO renewal dated 24.09.2015 and amendments thereof, CFO renewal dated 29.07.2018 and amendments thereof, CFO for Phase III dated 11.11.2022 the industry shall submit Half yearly compliance reports to all the stipulated conditions

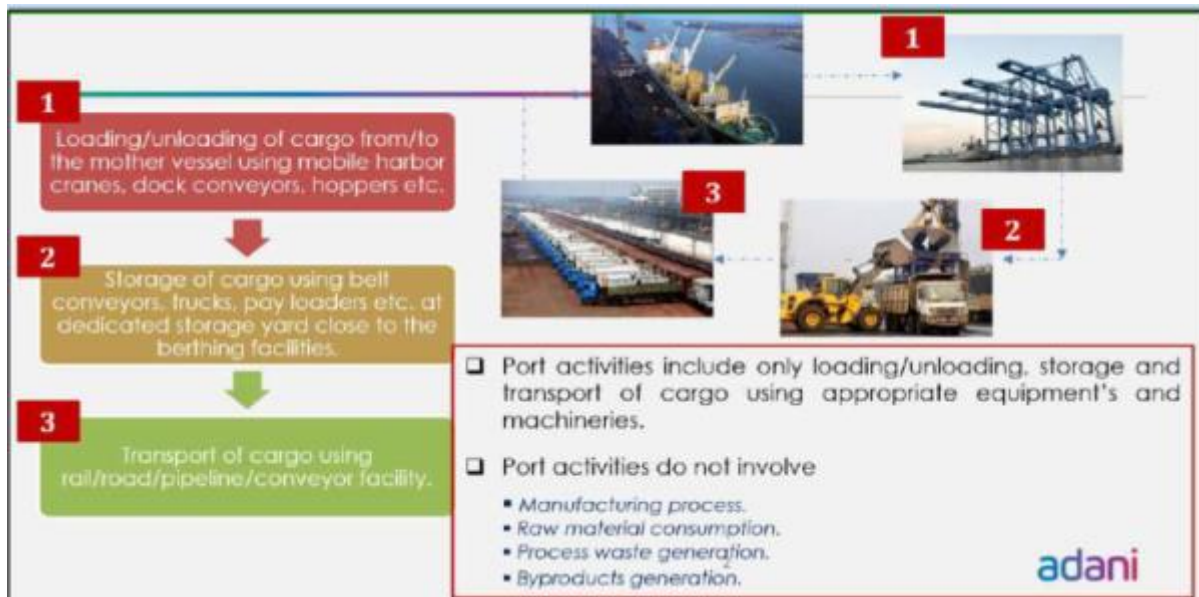
in Environmental Clearance (EC) and CRZ clearance, Consent for Establishment (CFE) and Consent for Operation (CFO) through website i.e., <https://pcb.ap.gov.in> by 1st of January and 1st July of every year. The first half yearly compliance reports shall be furnished by the industry and second half yearly compliance reports shall be audited through MoEF&CC recognized and National Accreditation Board for Laboratory Testing (NABL) accredited third party.

AKPL has submitted the Self-Certified & NABL Certified Half- Yearly compliance report for the period from April 2022 to September 2022 on 30.11.2022 from October, 2022 to March, 2023 on 31st May 2023 respectively and now submitting the Self-Certified Half-Yearly Compliance report for the period from April 2023 to September – 2023.

1.4 Process Description

AKPL is currently operating 13 No. of Berths. Out of which Berth No. N1 and N2 are Container berths, Berth No. N4, N6, N7, N8, NW1, NW2 & NW3 are fully mechanized berths. Berths N3, N5 & S4 are semi-mechanized berths. Berth no L4 is Liquid Jetty dedicated for POL products.

AKPL is handling dry cargo such as coal, iron ore through mechanized system to the maximum extent possible and the Fertilizers, Food grains, Sugar, Cement & Cement Clinker, barites, Feldspar, Edible Oils are being handled through semi-mechanized system.



1.5 Key highlights of Adani Krishnapatnam Port:

- AKPL is a major economic gateway that caters to the land locked southern hinterland of India with multimodal connectivity. It is an all Weather Port with Deep Draft Capable of Handling Capesize and Panamax Vessels. Round-The-Clock Navigation and provides Two Way Traffic for Both Onshore & Offshore Logistics, State of the art Infrastructure with

Bulk Cargo Handled by Mechanized Handling Systems, Dedicated Storage Areas are the main strength of the Port. AKPL provides Clean & Contamination Free Handling Facilities for Break-Bulk Cargo.

- It has been rated high in terms of operations, reliability, optimum cost, time and best available services to customers. Some of the key features of KPCL are fastest turnaround time for all types of vessels, minimal waiting time, Deep Draft capable of Handling Cape size and Panamax Vessels leading to significant savings in Ocean Freight, 365 days of operation (all-weather port), huge backup area of 6800 acres allotted by GoAP (under various Phase-of development), quick response customer service, mechanised handling systems.
- Capable of handling.
 - largest crude carriers in the World viz. VLCC
 - largest cape size bulk carrier in the World
 - largest container vessel in the World
 - largest car carrier in the World
 - largest LNG vessel in the World
- Port has installed high speed ship unloaders / mobile harbor cranes for faster discharge of coal cargo and mechanized storage yards & integrated conveyor system to handle huge volumes of cargo.
- Deep draft berth facilitates berthing of largest container vessels arriving at the ports and best-in-class infrastructure ensures world class productivity, fast turnaround of vessels and efficient evacuation of containers from the port.
- Port extends marine and vessel related services on demand to the vessels that come calling. Young fleet and a regular and rigorous repair and maintenance cycle, guaranteeing a high degree of reliability and quality, which are pivotal for the smooth running of port operations.
- Cargo can be received and evacuated by road, rail, air, conveyors and pipelines.
- Capable of handling 80 rakes per day for inbound and out bound cargo. Separate sidings are provided for Agri, Fertilizer, Coal cargo and Liquid cargo.
- The port has 4 / 6-lanes road connectivity allowing easy movement of cargo to and from the port.

Bulk and Break Bulk: Port has installed high speed ship unloaders / mobile harbor cranes for faster discharge of cargo. Mechanized storage yards & integrated conveyor system to handle huge volumes of cargo. The port has covered, open storage areas and special demarcated concrete storage yards with enormous capacity. Cargo Wise dedicated Rail siding for smooth and faster evacuation.



World Class Facilities and infrastructure to handle containers Pan-India. Deep draft berth facilitates berthing of largest container vessels arriving at the port and best-in-class infrastructure ensures world class productivity, fast turnaround of vessels and efficient evacuation of containers from the port.

- Natural gateway to cargo clusters in Southwest India offering undisputable logistics cost advantage to exporters & importers
- Port with efficient multi-modal transport connectivity for seamless movement of cargo
- Single Window Clearance.
- Container Scanning facility for quick assessment of containers and faster custom clearance.
- Berths equipped with 2 nos. 16 inch pipelines from jetty to tanks in customer’s locations to ensure safe and efficient handling of liquid products in big parcels.
- Krishnapatnam Port is fast emerging as a recognized hub for edible oil refineries with optimal blend of port infrastructural facilities and Greenfield opportunities.
- The Port has a dedicated POL Jetty equipped with State of Art Fire Fighting systems to handle LPG and POL products



Port extends marine and vessel related services on demand to the vessels that come calling. young fleet and a regular and rigorous repair and maintenance cycle, guaranteeing a high degree of reliability and quality, which are pivotal for the smooth running of port operations. The services offered include bunker, fresh water, ship stores, waste disposal and repair facilities. Diversified Operational experience of handling vessels of different categories.



1.6 Statutory Approvals:

The existing Port is proposed to be developed in 3 phases.

- The Phase-I development was completed, and commercial operations started on 20th March 2009.
- The Phase-II development was completed for 9 berths as against the EC approved 14 berths. CFO has been obtained for 12 berths developed in the Phase-I (3 berths) and the Phase-II (9 berths) developments of the port.

a. Environment & CRZ Clearances from MoEF & CC

- i. For Phase – I -Vide Order No. 10-22/2005-IA-III dated 26th July, 2006
- ii. For Phase II - vide F. No. 11 – 62 / 2009 – IA.III dated 13th November, 2009 and extended vide Oder even No. dated 18.08.2015 & 16.04.2018 and amended vide order dated 16.3.2016.
- iii. Phase III vide File No: 1018/2016-IA.III dated 11.01.2021.

b. Consent to Establishment-CTE from A.P. Pollution Control Board

- I. Order No. APPCB/VJA/NLR/633/HO/2004/9 - 467 dt. 25.05.2004. The Phase - I facility was commissioned during the year 2009.
- II. T Order No. 633/PCB/CFE/RO-NLR/HO/2010-390 dated 08.05.2010. Extended vide Order dated 02.07.2015 and amended vide Orders dated 14.03.2014, 02.07.2015, 10.02.2016, 04.01.2017 & 22.02.2018.
- III. Order No: 633/APPCB/CFE/RO-NLR/HO/2010 Dt. 25.02.2021 and amended vide order dated 06.04.2021 and 16.07.2021.

c. Consent to Operate-CTO from A.P. Pollution Control Board

-
- IV. Order No. APPCB/VSP/VJA/NLR/633/CFO/HO/2009-582, dated 08.06.2009
 - V. Order No. APPCB/VJA/NLR/11344/CFO/HO/2018 dated 29.07.2018 & 30.08.2018 which is valid till 31st October, 2023.
 - VI. Order No: APPCB/VJA/NLR/11344/CFO/HO/2019 dated 11/11/2022 valid till 31.08.2027. This CFO has superseded all CFO and its amendments issued by APPCB earlier.

Presently, AKPL is operating with 13 berths a with an approved cargo handling capacity of 78 MTPA of non-container cargo and 2.0 MTEUs PA of container cargo.

1.7 Statutory Returns/compliance Reports & institutional arrangements:

M/s. Adani Krishnapatnam Port Limited established an Environment Department to take care for submission of the following statutory returns/ compliance reports to the concerned statutory departments i.e., MoEF&CC and APPCB.

- **Monthly** - Submitting
 - Water consumption details in Form – 1 under the Water (Prevention and Control of Pollution) Cess Act, 1977 and amendments thereof.
 - Air Quality Monitoring Reports
 - Terrestrial & Marine reports
 - Condition wise compliance status on the conditions stipulated in the Consent Order.
- **Half-Yearly** - Submitting
 - Half yearly compliance of the conditions stipulated in EC, CTE & CTO Orders issued by MoEF&CC and APPCB. Self-Certified 1st Half-yearly compliance report for the period from April to September and NABL Accredited Agency Certified 2nd Half- Yearly compliance report for the period from October to March.
- **Annual/Yearly** - Submitting
 - E-waste annual returns (Form – 3) as per Rule 22 (2) of the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2016 and amendments thereof.
 - Hazardous Wastes annual returns (Form – IV) as per Rule 22 (2) of the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2016 and amendments thereof to APPCB.
 - Submitting of Environmental Statement (Form –V) to the APPCB.
 - Submitting of Used Battery Annual Returns in Form –80 to the APPCB.



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CHAPTER - 2

2.0 Operations

The Cargo comprises mainly of Coal, Gypsum and Granite. The bulk Liquids are handled through the ship's pumps. Pipelines have been provided for transportation of liquid cargo from berths to tank farms of users.

- AKPL is currently operating 13 No. of Berths.
- Out of which Berth No. N1 and N2 are Container berths, Berth No. N4,N6,N7,N8, NW1, NW2 & NW3 are fully mechanized berths.
- Berths N3, N5 & S4 are semi-mechanized berths. Berth no L4 is Liquid Jetty dedicated for POL products.

Approved cargo profile as per EC & CRZ clearance of MoEF & CC

Following are the phases of cargo handling approved since 2006.

Particulars	Phase-I	Phase-II	Phase-III
Coal	51 MMTPA		88 MMTPA
Iron Ore	8 MMTPA		-
General Cargo	9 MMTPA		10.5 MMTPA
Liquid Cargo	-		51.7 MMTPA
Container	2 MTEUsPA		1.1 MTEUsPA
No. of Berths	Approved 17 Constructed 12		Approved 16 (Incl 3 Liquid Berths) and 3 SBMs Constructed 1 Liquid jetty
Total Capacity	68 MMTPA (Non-Container) + 2 MTEUsPA (Container)		150.2 MMTPA (Non-Container) + 1.1 MTEUsPA (Container)

2.1 Approved cargo profile as per the CTO of APPCB & Present status

S. No	Products / Line of Activity Type of Cargo	Quantity
1.	Coal	46 Million Tons/ Annum
2.	Iron Ore	8 Million Tons/Annum
3.	General Cargo (Fertilizers, granites, Edible Oil and Lube oils, others).	14 Million Tons/Annum
4.	Liquid Cargo (POL, LNG, LPG, Chemical products)	10 Million Tons/Annum
5.	Container Cargo	2.0 Million TEUs/A
	Total	78.0 Million Tons/A Non-container cargo + 2.0 Million TEUs/A container cargo
6.	No. of Berths	13 Berths (12 + 1 berth – Liquid Jetty L4)

AKPL has handled the cargo as mentioned in the CFO order and within the limits given in the CFO order only.

For the year 2023 -24 (April to September), the facility has handled 28.18 MMTs of Commodities & 0.07 MTEUs of Containers, which are within the consented quantity.

- The majority of Port operations are carried out through mechanized cargo handling equipment so as to avoid cargo spillage and dust emissions during the cargo handling activities.
- To avoid dust emissions, provided hooded conveyer system for transportation of bulk dusty cargo.



Hopper systems and Closed hood conveyors - mechanical handling systems



Silo for Railway rake loading



Hooded conveyors





Conveyor Systems directly transferring cargo to industries



Conveyor Systems directly transferring cargo to industries



Fully Electric Operated Cranes



Closed Conveyor system



Using Grab ship unloaders

2.2 Cargo handling equipment

- Mechanical Handling Conveyors MHCs - 11 nos
- Liebherr–7 nos
- Gottwald–4 nos
- Hoppers–19 nos
- Grab ship Unloaders GSUs - 4 nos (Electric operated)

2.3 Cargo handling equipment at Berths and Stockyards

- Two coal unloaders at each berth. Conveyor streams for transportation from stockyard to interfacing transfer point.
- The general cargo will be handled by tyre mounted mobile harbour cranes along with the ships gear. The cargo may be unloaded / loaded into tractor-trailer combinations.
- The Equipment Handling Containers include Harbour Mobile Cranes, Stackers, Tractor Trailers, and Rubber Mounted Quay Cranes.

2.4 Brief process of cargo handling

The State of art mechanical dust suppression system is provided at various critical points i.e., equipment (Hopper & Declaimer), hooded conveyor belts and the storage yards have been functioning well throughout the system. By using these measures, the Port is able to mitigate all the dust that is being generated during the operations. The other berths are being used to handle other cargos such as Project cargo, fertilizer (Urea), Sugar etc.

2.4.1 Coal

- The coal handling system consists of the following:
 - Unloading of coal from ships
 - Transportation of coal to stockyard and stacking
 - Reclaiming from stockyard and transport to the interfacing transfer point at the battery limit of the power plants.
- Coal cargo is received from vessels calling at the port and a fully mechanized coal handling system with gantry grab type ship unloaders of required capacity have been installed to unload coal ships.
- It is then conveyed to the stockyard by the connected conveyor system. At the stockyard it is stacked at the designated areas by the stacker in the form of stockpiles.
- For evacuating to the respective importers, the reclaimer reclaims the respective grade of stockpile and conveys it to the wagon loader, which in turn loads the rakes for onward movement out of the port.

- For evacuating, the reclaimer(s) reclaims the respective grade of stockpile and conveys it to the Transfer Towers through dedicated stream of conveyors, which in turns transfer the cargo to stockyards.
- Using Grab ship unloaders and conveyers with water sprinkling system for handling coal from berths to storage yards and also to nearby power plants which reduced dust generation, compared to dumpers for transporting coal
- The MDSS system is available at all Hoppers & Transfer Towers & at stack yards.

2.4.2 Iron Ore

- The cargo handling system of Iron ore include:
 - Unloading of iron ore from wagons
 - Transportation and stacking of iron ore in the stockyard
 - Reclaiming the ore from stockyard and transport to the berth
 - Loading into ships.
- A reclaimer is used to reclaim the required quantity of iron ore from the available stockpile and is then conveyed to the ship loader at berths for loading of the iron.
- The ship loaders are of rail mounted equipment's and capable of loading huge capacity into the largest vessels.
- Mechanization of berth no 6 is completed in the month April 2023. Mechanization of berth includes linkages to the APGENCO and SEMBCORP conveyors and Wagon Loading station. Provided covered conveyor system with Dry fog dust suppression system. Provided dry fog dust suppression system at transfer points.

2.4.3 General Cargo

The general cargo is handled by tyre mounted mobile harbour cranes along with the ships gear. The cargo will be unloaded / loaded into tractor-trailer combinations.

2.5 Brief description of stock yards

- AKPL developed the modern mechanized stockyards.
- The stockyards are supported by scientifically designed Mechanical Dust Suppression System (MDSS) at all yards including coal and iron ore storage area to suppress dust during stacking of cargo in yards.
- The stock yards are established with modern dust suppression water cannons to suppress the dust emission round the clock, controlled by highly sophisticated Programmable logic controllers (PLCs) operated from central control room (CCR).

2.6 Storage facilities

- Open yards for handling Coal Stackyard, Iron Ore Stackyard and General Cargo Storage areas in an area of 507.84 acres
- Closed Godowns for handling general cargo in an area of 2,06,693 sq m



Cargo Handling with Hopper and Conveyors

General dry bulk cargo unloaded using hoppers on berths.



Mechanical Dust Suppression System at Ship Un loaders using Sprinklers system



GSUs - 4 nos (Electric operated)

- The dust suppression system comprises of canons supported by electrical motors and operated at regular intervals to cover water fog all over cargo stacks and other areas. The water is sprayed from various points by water cannons at pressure of about 2-4



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Kg/cm² to form a mist over the cargo stacks and other places and the mist attracts the dust to settle it down without spreading along the wind. AKPL has established a total of 248 cannons.

- Water sprinkling is being carried out on the general cargo berth and in other areas viz. Roads and yards through water tankers to arrest the dust pollution caused by vehicular movement in the port.
- Greenbelt developed around the Yards which acting as wind barricades to arrest the dust spreading into the atmosphere.



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CHAPTER – 3

3.0 Environmental Sustainability & Control Measures:

3.1 The Ambient Air Quality

The facility installed 3 No. of CAAQM stations of Beta Ray Attenuation technology to measure the parameters NOx, NH3, SO2, CO, PM 10, PM 2.5, at the following locations and data connected to APPCB website.

1. Station - 1 – (CVR Amenities Complex)
 2. Station - 2 – (Thamminapatnam Village)
 3. Station - 3 – (Krishnapatnam Village)
- The Port appointed an NABL accredited lab to monitor the CAAQM Stations and submitting the reports to APPCB on monthly basis along with the Compliance reports & to MoEF & CC on Half-Yearly basis.



CVR Complex



Thamminapatnam (V)



Krishnapatnam Village

Sl.	Details	Station -1		Station-2		Station-3	
1.	Location	CVR Amenities Complex		Near & towards Thamminapatnam Village		Near & towards Krishnapatnam Village	
2.	Model No.	PM10 & PM2.5 (5028i), CO (48i), SO2 (43i), NH3-NOx(17i)		PM10 & PM2.5 (5028i), CO (48i), SO2 (43i), NH3-NOx(17i)		PM10 & PM2.5 (BAM 1020), CO (48i), SO2 (43i), NH3-NOx(17i)	
3.	Make	Thermofisher Scientific (All analyzers)		Thermofisher Scientific (All analyzers)		Thermofisher Scientific & BAM 1020 is MET One	
4.	Type	PM10-2.5: - Beta ray attenuation. CO: Infrared radiation SO2: Ultraviolet NH3-NOx: Chemiluminescence		PM10-2.5: - Beta ray attenuation. CO: Infrared radiation SO2: Ultraviolet NH3-NOx: Chemiluminescence		PM10-2.5: - Beta ray attenuation. CO: Infrared radiation SO2: Ultraviolet NH3-NOx: Chemiluminescence	
5.	Parameters	NOx	NH ₃	SO ₂	CO	PM10	PM 2.5
		Nitrogen Oxide	Ammonia	Sulfur di-oxide	Carbon Monoxide	PM – Particulate Matter	
6.	Standards	0 to 80 ug/m ³	0 to 80 ug/m ³	0 to 80 ug/m ³	0 to 4.0 mg/m ³	100 ug/m ³	60 ug/m ³
7.	Supplier/AMC	Thermofisher Scientific : Service order no: 5702007783					
8.	Installed on	24.06.2023		24.06.2023		24.06.2023	
9.	Calibrated on	03.08.2023		04.08.2023		05.08.2023	
10.	Valid up to	NA		NA		NA	
11.	Server	G-Lens		G-Lens		G-Lens	
12.	Connectivity	APPCB website http://aprtcms.ap.gov.in					
13.	Accessibility	Public domain at http://aprtcms.ap.gov.in/publicView/#/ landing/dashboard					

3.2 CAAQM Stations/Equipment – Calibration Certificates:



The world leader in weighing science

AAQMS Analyzers Calibration Report

Calibration date: 03-08-2023

AAQMS - 1 (CVR Building)

Site Address: Krishnapatnam Port, Muthukur Mandal, SPSR Nellore, Andhra Pradesh

Thermo Scientific Analyzer	Parameter			Analyzer Measured Value			Acceptable error in full scale 1000 ppb (SO2 & NOx) and 5 ppm (CO)
	Standard	Concentration	Unit of Measurement	Before	After	error	
NOx S No. CM23087130	Zero	0.0	PPB	2.5	00	2	±1%
	NOx Span	500	PPB	488	500	12	±1.5%
	Cylinder No - DO14065 (44/9 PPM) Expiry date: 17-03-2024						
NH3 S No. CM23087130	Zero	0.0	PPB	2.6	00	2.6	±1%
	NH3 Span	500	PPB	494	500	6	±1.5%
	Cylinder No - DO11640 (102 PPM) Expiry date: 17-03-2024						
SO2 S No. CM23087130	Zero	0.0	PPB	2.6	00	2.6	±1%
	SO2 Span	400	PPB	396	400	4	±1.5%
	Cylinder No - DO14131 (42 PPM) Expiry date: 17-03-2024						
CO S No. CM22467086	Zero	0.0	PPM	0.16	00	0.16	±1%
	CO Span	4	PPM	3.94	4	0.6	±1.5%
	Cylinder No - DO14186(93 PPM) Expiry date: 17-03-2024						
PM10 5028I CM22488001	Zero Foil	0	µg	6	0		±20 µg
	Span Foil	1288	µg	1277	1288	11	±20 µg
PM2.5 50128I CM22488001	Zero Foil	0	µg	5	0		±20 µg
	Span Foil	1288	µg	1282	1288	6	±20 µg

- Above analyzers are purged with zero air before performing the calibration.
- Thermo Scientific make 146i Dynamic Gas Calibrator used for diluting span gases.
- All the SPAN Gas Cylinders are the balance of N2.



M/s. Adani Krishnapatnam Port Ltd



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AAQMS Analyzers Calibration Report

Calibration date: 04-08-2023

AAQMS - 2 (Taminapatnam)

Site Address: Krishnapatnam Port, Muthukur Mandal, SPSR Nellore, Andhra Pradesh

Thermo Scientific Analyzer	Parameter			Analyzer Measured Value			Acceptable error in full scale 1000 ppb (SO2 & NOx) and 5 ppm (CO)
	Standard	Concentration	Unit of Measurement	Before	After	error	
NOx S No. CM22297063	Zero	0.0	PPB	1.0	00	1.0	±1%
	NOx Span	500	PPB	492	500	8	±1.5%
	Cylinder No - DO13954 (44/9 PPM) Expiry date: 17-03-2024						
NH3 S No. CM22297063	Zero	0.0	PPB	1.0	00	2.0	±1%
	NH3 Span	500	PPB	494	500	6	±1.5%
	Cylinder No - DO14051 (98 PPM) Expiry date: 17-03-2024						
SO2 S No. CM22297072	Zero	0.0	PPB	1.2	00	1.2	±1%
	SO2 Span	400	PPB	394	400	6	±1.5%
	Cylinder No - DO14147 (48 PPM) Expiry date: 17-03-2024						
CO S No. CM22297052	Zero	0.0	PPM	0.22	00	0.22	±1%
	CO Span	4	PPM	3.97	4	0.0	±1.5%
	Cylinder No - DO14054 (98 PPM) Expiry date: 17-03-2024						
PM10 5028I CM22488001	Zero Foil	0	µg	5	0		±20 µg
	Span Foil	1248	µg	1242	1248	6	±20 µg
PM2.5 50128I CM22488001	Zero Foil	0	µg	5	0		±20 µg
	Span Foil	1248	µg	1256	1248	8	±20 µg

- Above analyzers are purged with zero air before performing the calibration.
- Thermo Scientific make 146i Dynamic Gas Calibrator used for diluting span gases.
- All the SPAN Gas Cylinders are the balance of N2.



M/s. Adani Krishnapatnam Port Ltd



The world leader in weighing science

AAQMS Analyzers Calibration Report

Calibration date: 05-08-2023

AAQMS - 3 (Krishnapatnam Village)

Site Address: Krishnapatnam Port, Muthukur Mandal, SPSR Nellore, Andhra Pradesh

Thermo Scientific Analyzer	Parameter			Analyzer Measured Value			Acceptable error in full scale 1000 ppb (SO2 & NOx) and 5 ppm (CO)
	Standard	Concentration	Unit of Measurement	Before	After	error	
NOx S No. CM23087129	Zero	0.0	PPB	2.5	00	2.5	±1%
	NOx Span	500	PPB	491	500	9	±1.5%
	Cylinder No - DO14020 (9/10 PPM) Expiry date: 17-03-2024						
NH3 S No. CM23087129	Zero	0.0	PPB	2.8	00	2.8	±1%
	NH3 Span	500	PPB	397	400	3	±1.5%
	Cylinder No - DO14020 (102 PPM) Expiry date: 17-03-2024						
SO2 S No. CM22067073	Zero	0.0	PPB	2.8	00	2.8	±1%
	SO2 Span	400	PPB	394	400	6	±1.5%
	Cylinder No - DO14184 (98 PPM) Expiry date: 17-03-2024						
CO S No. CM23087091	Zero	0.0	PPM	0.125	00	0.125	±1%
	CO Span	4	PPM	3.92	4	0.8	±1.5%
	Cylinder No - DO14063 (92 PPM) Expiry date: 17-03-2024						

- Above analyzers are purged with zero air before performing the calibration.
- Thermo Scientific make 146i Dynamic Gas Calibrator used for diluting span gases.
- All the SPAN Gas Cylinders are the balance of N2.



M/s. Adani Krishnapatnam Port Ltd

3.3 CAAQM Averages for the period from April 2023 to September 2023 are as below:

1 AT ZERO POINT									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	66.4	68.2	64.8	60.6	63.7	61.4
2	Particulate Matter - (PM2.5)	60	ug/m3	24.2	26	24.5	22.8	24.2	23
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	15.3	16.4	15	14.1	15.4	14.6
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	17	17.9	16.7	15.3	16.5	15.7
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.26	0.32	0.28	0.23	0.27	0.24
2 AT THAMMINAPATNAM VILLAGE (CAAQMS 2)									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	59.7	61.9	58.4	54.2	57	55.4
2	Particulate Matter - (PM2.5)	60	ug/m3	23	24.3	22.8	21.1	22.6	20.8
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	13.4	14.2	13.1	12	12.9	11.9
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	14.8	15.7	14.5	13.4	14.2	13.5
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.25	0.29	0.24	0.2	0.25	0.21
3 AT CVR BUILDING (CAAQMS 1)									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	58.9	61.2	57.4	53.7	56.5	54
2	Particulate Matter - (PM2.5)	60	ug/m3	22.1	24	22.3	20.5	21.9	20.3
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	11.5	12.3	11.2	10.3	11.1	10.2
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	13	13.8	12.6	11.2	12	11.3
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.24	0.27	0.23	0.19	0.24	0.2
4 AT GOPALPURAM VILLAGE									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	57	60.4	56.3	52.9	55.6	53.8
2	Particulate Matter - (PM2.5)	60	ug/m3	23.5	25.1	23	21.3	22.8	21.5
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	13.6	14.5	13.4	12.5	13.7	12.6
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	15.8	16.7	15.2	14.1	15.3	14.4
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.17	0.22	0.19	0.15	0.2	0.17
5 AT CHALIVENDARAM									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	54.2	57.6	53.8	50.6	53.4	51.2
2	Particulate Matter - (PM2.5)	60	ug/m3	20.1	22.3	21	19.1	20.7	18.9
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	12.3	13.5	12.3	11.4	12.1	11
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	14	15.1	14.2	13	14.3	13.1
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.14	0.18	0.15	0.12	0.16	0.13
6 AT KRISHNAPATNAM									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	63.4	65.9	61.7	57.5	60.3	58
2	Particulate Matter - (PM2.5)	60	ug/m3	23.8	25.6	23.9	22.1	23.5	21.8
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	12.2	13.4	12.1	11	12.2	11.4
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	14	14.8	13.6	12.3	13.5	12.7
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.21	0.26	0.22	0.18	0.23	0.2
7 KRISHNAPATNAM VILLAGE (CAAQMS 3) NEAR LIGHT HOUSE COLONY									
Sl. No.	Parameters	Standard	Unit	Apr.23	May 23	Jun.23	Jul.23	Aug 23	Sep.23
1	Particulate Matter - (PM 10)	100	ug/m3	55.7	58.3	54.9	51.4	54.2	51.8
2	Particulate Matter - (PM2.5)	60	ug/m3	24.5	26.7	24.3	22.1	23.6	22.3
3	Sulphur Dioxide - SO ₂	0 - 80	ug/m3	10.9	11.8	10.7	9.5	10.3	9.1
4	Nitrogen Dioxide - NO ₂	0 - 80	ug/m3	14	15	13.8	12.3	13.1	12
5	Carbon Monoxide - CO	0-4.0	mg/m ³	0.17	0.22	0.18	0.14	0.17	0.14

3.4 Water - source, consumption, conservation, treatment & disposal

The consented source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava irrigation drain. But AKPL is not withdrawing 1000 KLD of water from Muthukur Reservoir. Alternatively, they are purchasing the water from outside the Port through tankers.

As per APPCB Consent, the existing permitted water quantities for different applications are as below:

S. No.	Purpose	Quantity (KLD)
1.	Dust suppressions & Miscellaneous (Fire protection services)	1950.0
2.	Gardening	400.0
3.	Domestic	650.0
	Total	3000.0

The Port is submitting the water consumption details in Form – 1 to APPCB on Monthly basis & MoEF &CC on Half-yearly basis.

The average daily water consumption for the last six months i.e., from April 2023 to September, 2023 is 2570 KLD. As per the records (Form – 1) produced, the water consumption for different activities in a month during the above period is as below. The water consumption is within the consented quantities only.

Water consumption details for the period from April 2023 to September 2023								
Sl. No.	Purpose	CFO Quantity	April 23	May 23	June 23	July 23	August 23	Sept. 23
			Daily average quantity					
1	Dust suppressions & Miscellaneous (Fire protection services)	1950	1980	1781	1796	1242	1365	1393
2	Gardening	400	367	329	359	258	364	382
3	Domestic	650	659	620	648	587	648	643
	Industrial	-	2347	2110	2155	1500	1729	1775
	Domestic	-	659	620	648	587	648	643
	Total KLD	3000	3006	2730	2803	2087	2377	2418

3.5 Waste Management and Disposal

- **Solid waste**
 - AKPL has provided collection bins at about 336 locations for collection of dry & wet solid & domestic waste.
 - Developed bin collection system with dedicated collection vehicles and manpower.
 - Segregating recyclable at the source and being recycled through vendors.
 - Biodegradable waste is converting to manure through natural composting process/Giving to Pig farms.
- **Plastic waste** is being collected and disposed of to SPCB authorized plastic waste recycling units.
- **E – Waste** is being collected and disposed to SPCB authorized E-waste recyclers and submitting the details in Form – 3 to SPCB regularly. The latest submission is on 30.06.2023 for the Year 2022-2023.
- **Hazardous waste (Waste oil)** – as per the CFO & HWA of APPCB, AKPL is permitted to generate & dispose of waste oil including bilge oil. AKPL is quantifying the waste oil and disposing to SPCB authorized Waste oil recyclers and submitting the details in Form – 4 to SPCB regularly. The latest submission is on 30.06.2023 for the Year 2022-2023.
- The facility has disposed the following wastes during the period April 2023 to September 2023.

Sl. No.	Date	Recycling Unit	Quantity
1.	04-09-2023	Jyothi Lubricants	4.00 Tonnes
2.	31-08-2023	Jyothi Lubricants	10.00 Tonnes
3.	06-06-2023	Supreme Petro Products (Used Oil)	19.06 Tonnes
4.	03-06-2023	Supreme Petro Products (Used Oil)	12.58 Tonnes
5.	24-05-2023	Thirupathi Oil Company Unit-1	20.60 Tonnes

- **Solid waste** – AKPL made arrangements for daily collecting and disposing of the domestic solid waste for further waste management process.
- **Organic waste**– is being collected on a regular basis within the Port and being used for greenbelt development.
- **Bio-Medical Waste** – Adani Foundation (a different entity) is operating an Onsite Health Centre (OHC) to provide First Aid facility to the victims and generating very less quantity of Bio-Medical Waste. Adani foundation made an agreement with M/s. SS Bio Care an authorized Bio-medical waste Treatment Facility, Safe Collection, Transportation & disposal of properly segregated and packed BMW and/or Bio-Hazardous waste as per APPCB, CPCB norms.

3.6 Nursery & Green Belt Development

AKPL takes pride in maintaining its own nursery, where saplings are propagated for the annual plantation drive. Since the beginning of the port's operations, the AKPL nursery has consistently maintained a stock of 100,000 to 500,000 saplings.





As on 31st March 2023, AKPL (Krishnapatnam Port) has successfully developed 194.5 hectares of greenbelt within its premises since the port's inception.









The development of the greenbelt has been carried out in phases I and II, resulting in a total area of 191.5 hectares that has been developed and maintained within the port premises. In line with the expansion plans for phase III of Krishnapatnam Port, an additional 3 hectares of greenbelt has been established, contributing to the proposed 120 hectares of greenbelt for this phase in addition to the existing 191.5 Ha.

The facility is maintaining greenbelt of 100 m width along the periphery, except lighthouse area (north port) and towards AP Genco conveyor (north port).

Port has developed 3.5 Ha of greenbelt near liquid jetty area in phase III along the shoreline boundary.

The facility is maintaining 20-meter width greenbelt around the coal stack yards and the gap filling work is in progress



	
	
Green Belt – South Shore	Green Belt – North Shore
	
Green Belt – Zero Point Entrance	Green Belt – West Port
	
Avenue Plantations towards berths	Warehouses – Avenue Plantations



Greenbelt Protection to Buckingham Canal inside the port premises



Green Belt towards Industries

Green Belt – Coal sidings



Coastal Plantation in March 2023

Coastal Plantation in March 2006

3.7 Mangrove Conservation

Existing mangrove areas in the AKPL are being protected and conserved with suitable barricading, erection of display boards and ensuring the tidal flow. As a part of Phase I EC compliance, and area of 9 acres (3.64 ha) of mangroves are being conserved in the port areas since its inception.



Mangroves conservation 200 Ha.



Mangroves - Developed 50 Hectares



Mangrove protection of 3.64 ha (9 acres) at AKPL



Proper drainage near Mangrove area of 50 Ha. developed by AKPL

AKPL has undertaken plantation of mangroves in the upstream and downstream of the creek by adopting fish-bone technique. All the major seven mangrove species were recorded in this creek with a dominance of *Avicennia marina*.





*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

CHAPTER – 4

4.0 Environment Sustainability & Pollution Control Measures:

4.1 M/s. Adani Krishnapatnam Port Limited established an Environment Department for institutional Arrangements for Environment Protection, Sustainability & Conservation. The Department is Headed by the Vice President, AGM, Environment & ESG, Assistant Manager Environment, Senior Officer Environment, Environment Engineer followed by Senior Officer Horticulture), and other supporting staff.

AKPL appointed an NABL Accredited and MoEF&CC recognized lab “M/s.SV Enviro Labs and Consultants” to carry-out monitoring parameters of terrestrial as well as marine water quality and submitting the report to A.P. Pollution Control Board on monthly basis. NABL Certification and MoEF&CC Gazette Notification of the SV Enviro Labs & Consultants are as furnished below:



MoEF&CC Gazette notification of M/s. S.V.Enviro Labs

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE			
NOTIFICATION			
New Delhi, the 24th August, 2021			
<p>S.O. 3511(E).—In exercise of the powers conferred by clause (b) of sub-section (1) of sections 12 and section 13 of the Environment (Protection) Act, 1986 (29 of 1986), read with rule 10 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments in the notification of the Government of India in the erstwhile Ministry of Environment and Forests, published in the Gazette of India, Part II, Section 3, Sub-section (ii) vide number S.O. 1174(E), dated the 18th July, 2007, namely:—</p> <p>In the said notification, in the table,—</p> <p>(i) for Sl. No. 13,14,24,56,59,63,64,69,71,79,113,114,115,117,123,124,126,134,175 and 196 and the entries relating thereto, the following Sl. No. and entries shall respectively be substituted, namely:—</p>			
Table			
79	M/s. S.V Enviro Labs and Consultants Block B, B-1 IDA, Autonagar, Visakhapatnam-	(1) Mr. Murali Krishna Malasani (2) Mr. Jalem Srinivas (3) Mr. Akunuru Sam Prasanth	11 th November, 2023

4.2 Terrestrial Parameters, frequency and monitoring locations are as below.

S. No.	Parameter	Frequency	Location & No. of Samples
1.	Air Monitoring PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ , NH ₃ , Ozone (O ₃), Lead (Pb), Carbon Monoxide, Benzene, Benzo(a)pyrene- (BaP) Arsenic (As), Nickel (Ni)	Monthly Once - 24 Hours basis	7 Locations i. CAAQMS station 1 – at Amenities Complex ii. CAAQMS station 2 – at Tamminapatnam Village (South Port) iii. CAAQMS station 3 - at Krishnapatnam Village iv. Gopalapuram Village v. Chalivendram Village vi. Port Main Gate (“O” Point) vii. New Light House
2.	Noise Levels covering day and night noise levels in dB (A)	Monthly-24 Hours basis	8 Locations I. Krishnapatnam Village II. Gopalapuram Village III. Chalivendram Village IV. Port Main Gate (“O” Point) V. Amenities Complex VI. New Light House VII. Tamminapatnam Village (South Port) I. Any 2 of Port Operational areas (1 Point at North Port & 2nd point at South Port)
3.	Sewage Treatment Plant Inlet and Outlet pH, Total Suspended Solids, Total Dissolved Solids, Oil & Grease, COD, BOD.	Monthly once	2 Locations STP (Outlet) 500 KLD-1 unit 40 KLD-1 unit

4.3 Air Quality Monitoring:

The facility installed 3 No. of CAAQM stations of Beta Ray Attenuation technology to measure the parameters NO_x, NH₃, SO₂, CO, PM 10, PM 2.5, at the following locations and data connected to APPCB website.

1. Station - 1 – (CVR Amenities Complex)
 2. Station - 2 – (Thamminapatnam Village)
 3. Station - 3 – (Krishnapatnam Village)
- The Port appointed an NABL accredited lab to monitor the CAAQM Stations and submitting the reports to APPCB on monthly basis along with the Compliance reports & to MoEF & CC on Half-Yearly basis.
 - The ambient air quality was assessed at 7 locations within 10 Km radius of project site (5 stations in buffer zone & 2 location inside plant area). The locations of ambient air quality stations are given below:

DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Direction w.r.t. Project site
A1	At Zero Point	W
A2	At Thamminapatnam Village	S
A3	At CVR Building	WNW
A4	At Gopalpuram Village	NW
A5	At Chalivendram	WNW
A6	At Krishnapatnam	NNW
A7	At Light House	SW

Summary of Analysis of Ambient Air Quality in the Study Area at A1 –Zero Point for the period of April'23 – September'23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April'23	66.4	24.2	15.3	17.0	BDL
May'23	68.2	26.0	16.4	17.9	BDL
June'23	64.8	24.5	15.0	16.7	BDL
July'23	60.9	22.8	14.1	15.3	BDL
Aug'23	63.7	24.2	15.4	16.5	BDL
Sept'23	61.4	23.0	14.6	15.7	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A2 –Thamminipatnam for the period of April’23 – September’23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April’23	59.7	23.0	13.4	14.8	BDL
May’23	61.9	24.3	14.2	15.7	BDL
June’23	58.4	22.8	13.1	14.5	BDL
July’23	54.2	21.1	12.0	13.4	BDL
Aug’23	57.0	22.6	12.9	14.2	BDL
Sept’23	55.4	20.8	11.9	13.5	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A3 –CVR for the period of April’23 – September’23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April’23	58.9	22.1	11.5	13.0	BDL
May’23	61.2	24.0	12.3	13.8	BDL
June’23	57.4	22.3	11.2	12.6	BDL
July’23	53.7	20.5	10.3	11.2	BDL
Aug’23	56.5	21.9	11.1	12.0	BDL
Sept’23	54.0	20.3	10.2	11.3	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A4 –Gopalpuram for the period of April’23 – September’23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April’23	57.0	23.5	13.6	15.8	BDL
May’23	60.4	25.1	14.5	16.7	BDL
June’23	56.3	23.0	13.4	15.2	BDL
July’23	52.9	21.3	12.5	14.1	BDL
Aug’23	55.6	22.8	13.7	15.3	BDL

Sept'23	53.8	21.5	12.6	14.4	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A5 –Chalivendram for the period of April'23 – September'23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April'23	54.2	20.1	12.3	14.0	BDL
May'23	57.6	22.3	13.5	15.1	BDL
June'23	53.8	21.0	12.3	14.2	BDL
July'23	50.6	19.1	11.4	13.0	BDL
Aug'23	53.4	20.7	12.1	14.3	BDL
Sept'23	51.2	18.9	11.0	13.1	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A6 –Krishnapatnam for the period of April'23 – September'23.

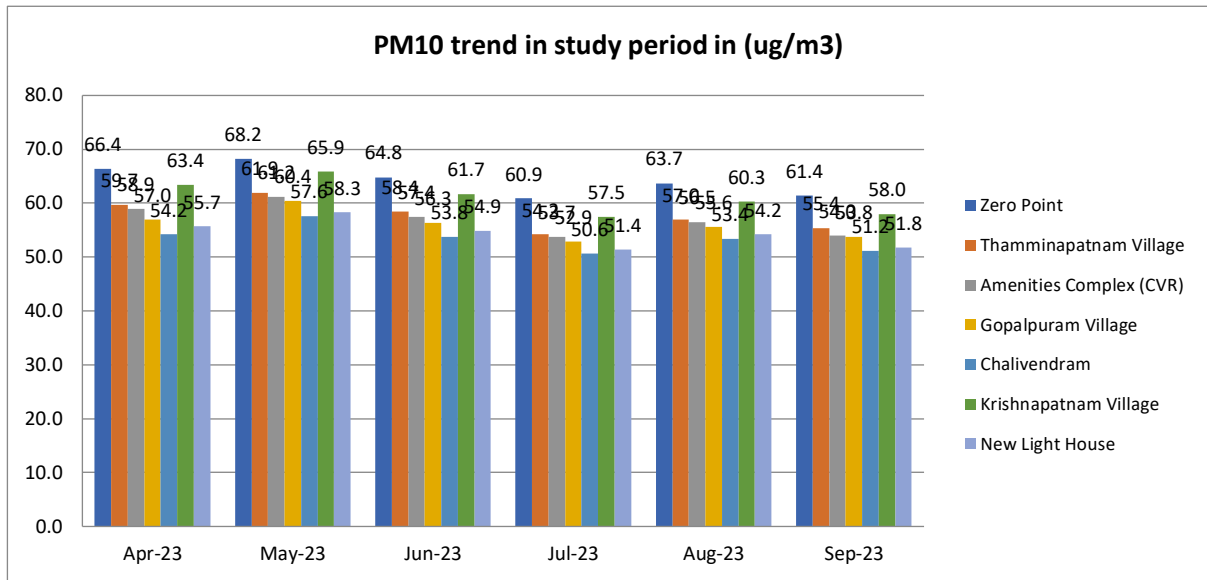
Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April'23	63.4	23.8	12.2	14.0	BDL
May'23	65.9	25.6	13.4	14.8	BDL
June'23	61.7	23.9	12.1	13.6	BDL
July'23	57.5	22.1	11.0	12.3	BDL
Aug'23	60.3	23.5	12.2	13.5	BDL
Sept'23	58.0	21.8	11.4	12.7	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area at A7 –Light House for the period of April'23 – September'23.

Month	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	NH ₃ (µg/m ³)
April'23	55.7	24.5	10.9	14.0	BDL
May'23	58.3	26.7	11.8	15.0	BDL
June'23	54.9	24.3	10.7	13.8	BDL
July'23	51.4	22.1	9.5	12.3	BDL

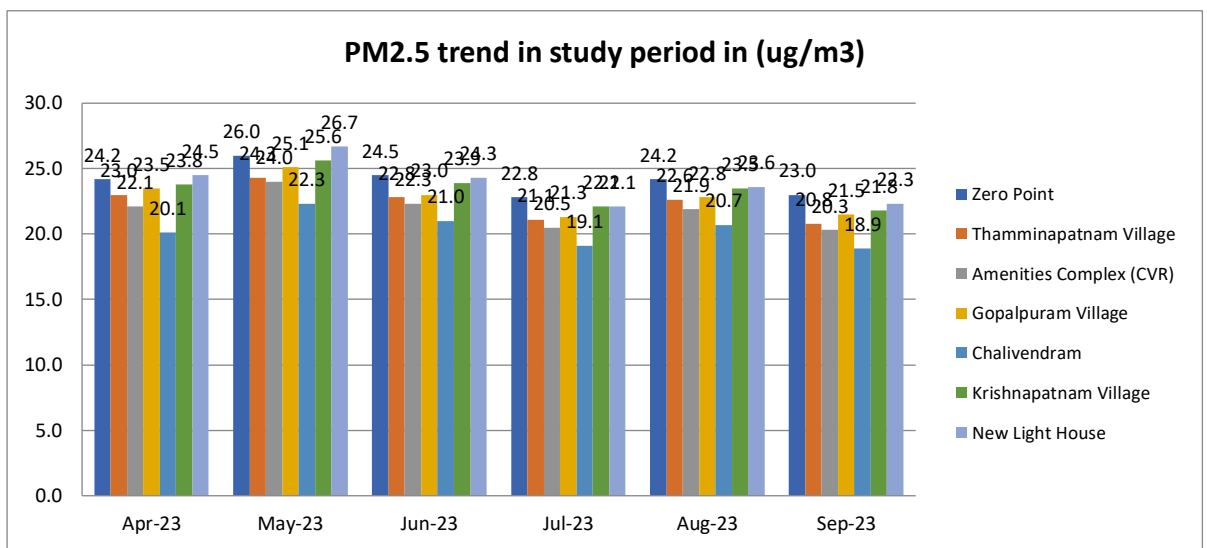
Aug'23	54.2	23.6	10.3	13.1	BDL
Sept'23	51.8	22.3	9.1	12.0	BDL
Standards	100	60	80	80	400

Summary of Analysis of Ambient Air Quality in the Study Area – PM10 for April'23 – September'23.



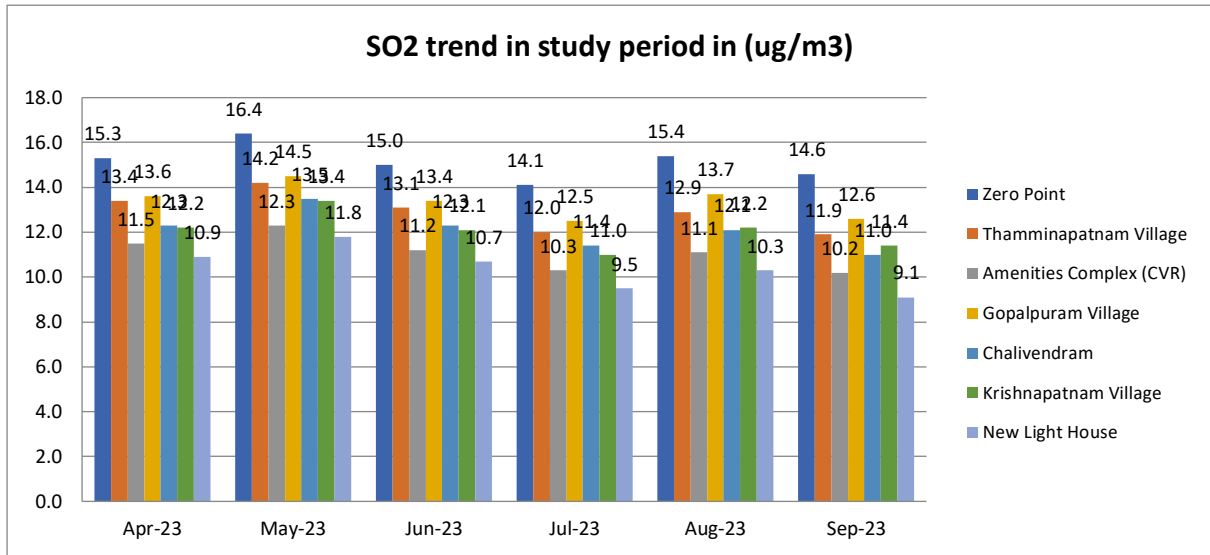
- ❖ PM10 varied between 50.6 to 68.2 $\mu\text{g}/\text{m}^3$ Minimum: Chalivendram
- ❖ Maximum: Zero Point, NAAQ Standard: 100 $\mu\text{g}/\text{m}^3$

Summary of Analysis of Ambient Air Quality in the Study Area – PM2.5 for April'23 – September'23.



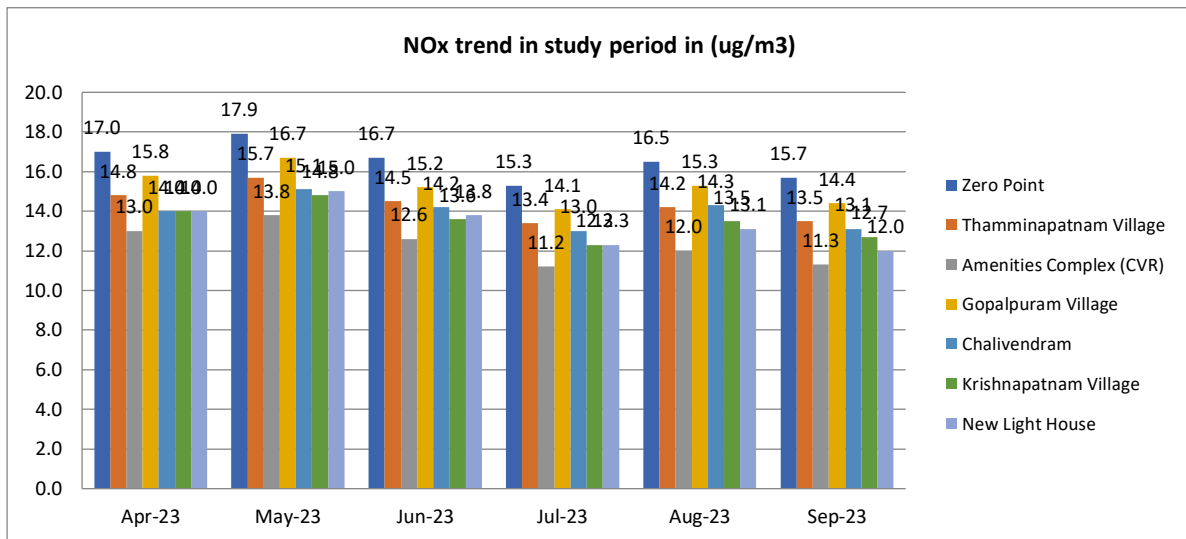
- ❖ PM_{2.5} Varied between 18.9 to 26.7 $\mu\text{g}/\text{m}^3$, Minimum: Chalivendram
- ❖ Maximum ; New light house , NAAQ Standard : 60 $\mu\text{g}/\text{m}^3$

Summary of Analysis of Ambient Air Quality in the Study Area – SO₂ for April’23 – September’23.



- ❖ SO₂ Varied between 9.1 to 16.4 µg/m³, Minimum : New Light House
- ❖ Maximum : Zero Point, NAAQ Standard : 80 µg/m³

Summary of Analysis of Ambient Air Quality in the Study Area – NO_x for April’23 – September’23.

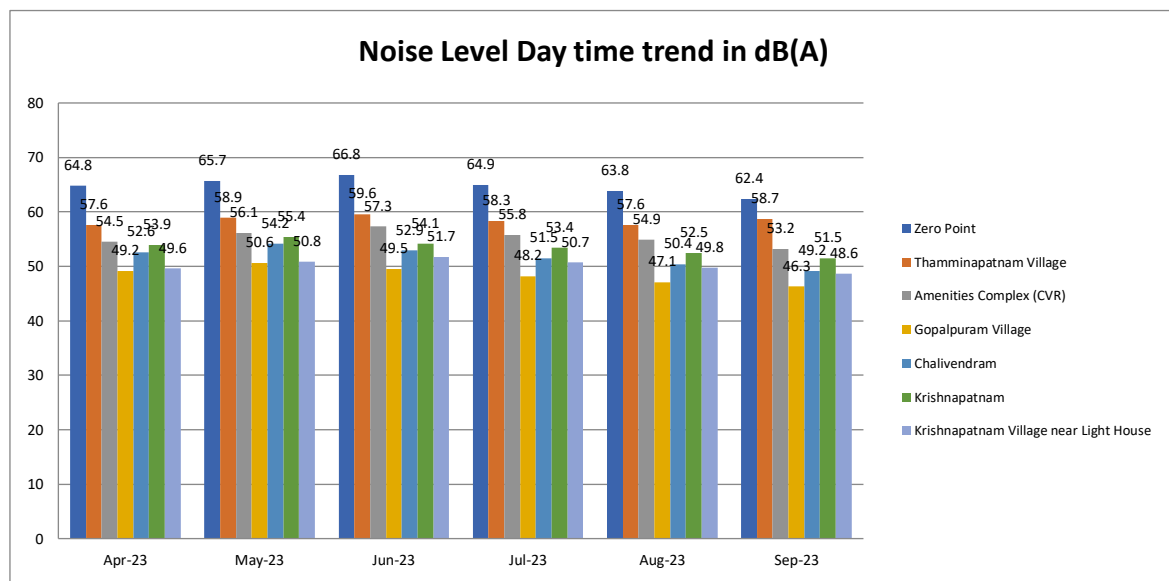


- ❖ NO_x Varied between 11.2 to 17.9 µg/m³, Minimum : CVR
- ❖ Maximum : Zero Point NAAQ Standards : 80 µg/m³

4.4 Noise Monitoring

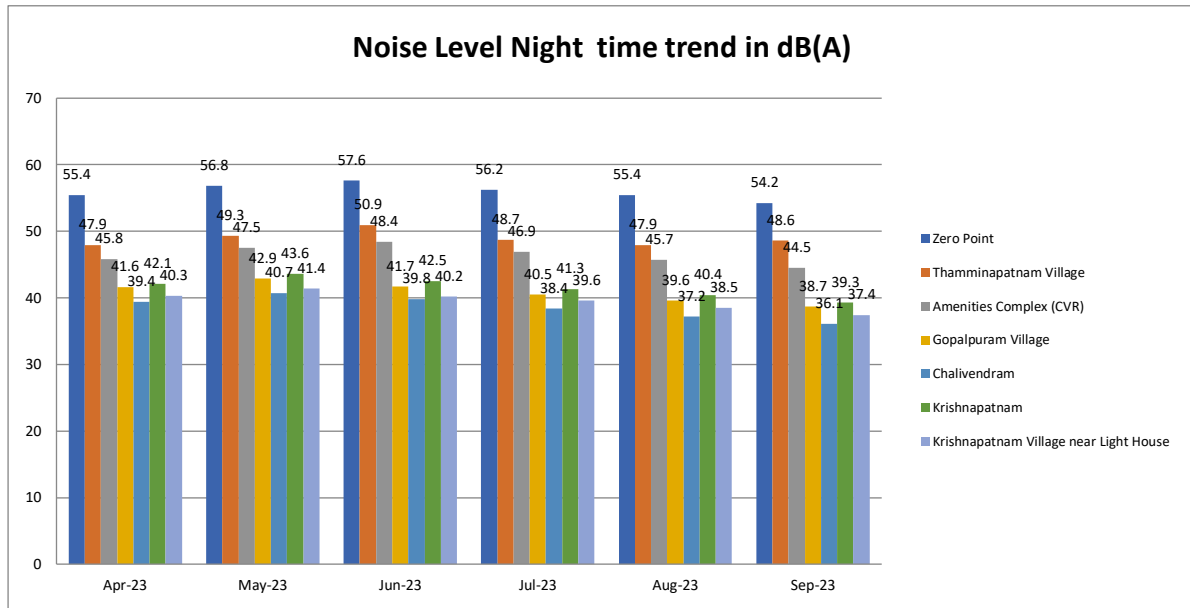
Noise monitoring is being carried out monthly basis at the following locations viz.

S. No	Monitoring Locations	DIRECTION w.r.t PROJECT SITE	CPCB Standards	
		W	Day Time	Night Time
1.	Zero Point	S	75	70
2.	Thamminapatnam	WNW	75	70
3.	CVR Building	NW	75	70
4.	Gopalapuram	WNW	55	40
5.	Chalivendram	NNW	55	45
6.	Krishnapatnam	SW	55	45
7.	Krishnapatnam Village near Light House		55	45



Location	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23
Zero Point	64.8	65.7	66.8	64.9	63.8	62.4
Thamminapatnam (V)	57.6	58.9	59.6	58.3	57.6	58.7
Amenities Complex (CVR)	54.5	56.1	57.3	55.8	54.9	53.2
Gopalapuram Village	49.2	50.6	49.5	48.2	47.1	46.3
Chalivendram	52.6	54.2	52.9	51.5	50.4	49.2
Krishnapatnam	53.9	55.4	54.1	53.4	52.5	51.5
Krishnapatnam Village near Light House	49.6	50.8	51.7	50.7	49.8	48.6

- ❖ Industrial Day time noise level varied between 48.6 to 66.8 dB(A)
- ❖ Residential Day time noise level varied between 46.3 to 55.4 dB(A)
- ❖ NAAQ Standard: Industrial -75 Db(A): Residential –55dB(A)



Location	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23
Zero Point	55.4	56.8	57.6	56.2	55.4	54.2
Thamminapatnam Village	47.9	49.3	50.9	48.7	47.9	48.6
Amenities Complex (CVR)	45.8	47.5	48.4	46.9	45.7	44.5
Gopalpuram Village	41.6	42.9	41.7	40.5	39.6	38.7
Chalivendram	39.4	40.7	39.8	38.4	37.2	36.1
Krishnapatnam	42.1	43.6	42.5	41.3	40.4	39.3
Krishnapatnam Village near Light House	40.3	41.4	40.2	39.6	38.5	37.4

4.5 Sewage Water – Treatment & disposal

AKPL is operating Sewage Treatment Plants (STP) of 540 KLD to treat the domestic sewage generating within the Port.

- 500 KLD STP (1 X 300 KLD & 1 X 200 KLD) at CVR Amenities Complex
- 40 KLD STP Admin. Building.

The Port constructed and operating Sewage Treatment Plant of capacity of 300 KLD under Phase 1 & II which consisting of Bar Screen, Sewage collection Sump, fluidized Bed Bio Reactor, Secondary clarifier, Clarifier Water Tank, Dual Media Filter, treated water tank, Sludge drying beds etc. for treatment of the domestic effluents. After treatment, the treated water is being utilized for Green belt development and dust suppression.

In Phase –III, the Port provided Sewage Treatment Plant of capacity of 240 KLD consisting of Sewage collection pit – 2 pumps of 1hp each, Aeration tank, Coagulation tank, Tube settler tank Sludge, Biotreat, Ozonation tank, Pressure sand filter, Activated carbon filter, UV sterilization and Chlorine dosing, Treated water tank for treatment of the domestic effluents. After treatment, the treated water utilized for Green belt development and dust suppression to cater to the sewage that would be generated from the Phase III domestic.

As part of compliance monitoring the Port is carrying out the Sampling and analysis of STP treated water through an agency accredited by NABL and approved by MoEF&CC. Results of monitoring conform to norms and periodical Monitoring Reports are being submitted to APPCB regularly. As per the monthly monitoring details, the values are meeting the stipulated standards.

The details of treated water generated during the period from April 2023 to September 2023 are as below. The water was utilized for onland greenbelt & dust suppression purpose within the Port premises.

Month	Treated water generated		
	STP- 1	STP-2	Total
April 2023	300.33	9.27	310.20
May 2023	193.70	12.73	206.43
June 2023	169.63	10.63	180.26
July 2023	182.00	6.47	188.47
August 2023	184.60	12.20	196.80
September 2023	193.70	6.83	200.53





The STP sampling values for the period from April 2023 to September 2023 are as below:

Analysis Report of STP inlet – 500 KLD

Sl. No.	Parameter	Unit	April23	May'23	June'23	July'23	Aug'23	Sept'23
1	pH	-	7.12	7.24	7.36	7.28	7.16	7.24
2	TSS	mg/l	128	140	124	110	102	116
3	BOD 3day 27°C	mg/l	132	146	130	114	105	118
4	Oil & Grease	mg/l	4.9	5.4	4.6	3.8	3.4	4.0
5	Fecal coliform	MPN/ 100ml	10X10 ³	13X10 ³	11X10 ³	09X10 ³	07X10 ³	10X10 ³

Analysis Report of STP Outlet – 500 KLD

Sl. No	Parameter	Unit	April23	May'23	June'23	July'23	Aug'23	Sept'23
1	pH	-	7.31	7.45	7.53	7.39	7.30	7.42
2	TSS	mg/l	17.0	50.0	42.0	36.0	31.0	40.0
3	BOD 3day 27°C	mg/l	25.0	28.0	24.0	21.0	18.0	23.0
4	Oil & Grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Fecal coliform	MPN/ 100ml	264	282	250	210	192	230

Analysis Report of STP inlet – 40 KLD

Sl. No	Parameter	Unit	April'23	May'23	June'23	July'23	Aug'23	Sept'23
1	pH	-	7.54	7.63	7.71	7.56	7.42	7.50
2	TSS	mg/l	115	124	110	98.0	90.0	102
3	BOD 3day 27°C	mg/l	120	128	112	95.0	89.0	98.0
4	Oil & Grease	mg/l	4.2	4.8	4.0	3.6	3.1	3.5
5	Fecal coliform	MPN/ 100ml	09X10 ³	11X10 ³	08X10 ³	06X10 ³	05X10 ³	08X10 ³

Analysis Report of STP outlet – 40 KLD

Sl. No	Parameter	Unit	April'23	May'23	June'23	July'23	Aug'23	Sept'23
1	pH	-	7.10	7.19	7.31	7.15	7.03	7.10
2	TSS	mg/l	16.0	19.0	15.0	11.0	8.0	12.0
3	BOD 3day 27°C	mg/l	22.0	25.0	21.0	18.0	15.0	19.0
4	Oil & Grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Fecal coliform	MPN/ 100ml	196	210	184	168	150	180

The values meet the CPCB/APPCB Prescribed standards. AKPL is submitting the reports on monthly basis to APPCB & on Half-yearly basis to MoEF & CC.

4.6 Ground Water Monitoring

There is no groundwater usage within the Port Premises.

As per the statutory regulations & requirement, ground water quality monitoring is being carried out by AKPL on Six - monthly basis and reports being submitted to the APPCB and on Half-yearly basis to MoEF & CC.

Ground Water sampling is carried out once in six months at four locations in and around the Port. The Ground water sampling locations are listed below.

Location Code	Location
GW1	Port Site
GW2	South Side of the Port
GW3	Gopalapuram Village
GW4	Krishnapatnam Village

Report of Ground Water Samples

S.	Parameter	Unit	Port Site	Krishnapatnam	South Side of	Gopalapuram	IS: 10500-2012
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No.				Village	the Port	Village	Specification
1.	pH	--	7.04	7.16	7.20	7.12	6.5 – 8.5
2	Electrical Conductivity	µmhos	1560	887	1412	918	-
3	TDS	mg/l	938	524	884	540	500
4	Total Alkalinity as CaCO ₃	mg/l	235	205	327	188	200
5	Chlorides as Cl ⁻	mg/l	424	198	354	179	250
6	Sodium	mg/l	167	86.3	185	88.6	-
7	Potassium	mg/l	40	16.0	37	18.5	-
8	Fluorides as F ⁻	mg/l	0.62	0.47	0.71	0.44	1.0
9	Nitrates as NO ₃	mg/l	6.21	6.34	5.14	5.37	45
10	Cyanide as CN	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	0.05
11	Total Hardness as CaCO ₃	mg/l	120	78.6	98.6	102	200
12	Salinity	ppt	0.078	0.038	0.067	0.032	-
13	Sulphates as SO ₄ ⁻²	mg/l	115	67.2	71.9	77.2	200
14	COD	mg/l	< 10.0	< 10.0	< 10.0	< 10.0	-
15	Mercury as Hg	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	0.001
16	Cadmium as Cd	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	0.003
17	Arsenic as As	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	0.01
18	Selenium	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	-
19	Iron as Fe	mg/l	0.07	0.08	0.10	0.06	0.3
20	Lead as Pb	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	0.01
21	Zinc as Zn	mg/l	0.11	0.06	0.10	0.12	5.0
22	Chromium as Cr ⁶⁺	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	0.05
23	Total Coliforms	CFU/ml	Not Detected	Not Detected	Not Detected	Not Detected	Shall not be detected in 100ml
24	Fecal Coliforms	CFU/ml	Not Detected	Not Detected	Not Detected	Not Detected	Shall not be detected in 100ml

Note: . All the above parameters have been tested as per APHA 23rd Edition, 2017.

The values meet the CPCB/APPCB Prescribed standards. AKPL is submitting the reports on monthly basis to APPCB & on Half-yearly basis to MoEF & CC.

4.8 Soil Quality:

AKPL is studying soil profile of the region, sampling locations are selected to assess the existing soil characteristics in and around the port area representing various land use conditions.

The details of the soil sampling locations are given below.

Location Code	Name of the Location
S1	Storage area towards west Buckingham Canal
S2	Storage Area at Port

Report of Soil Samples

S. NO.	PARAMETER	UNIT	S1	S2
1.	pH(1:5)	--	7.21	7.34
2.	EC(1:5)	µmhos	630	678
3.	Texture			
	a. Sand	%	52.0	48.4
	b. Silt	%	19.4	20.4
	c. Clay	%	28.6	31.2
4	Available Nitrogen	kg/ha	237	253
5	Available Phosphorus	kg/ha	16	18
6	Available Potassium	kg/ha	510	526
7	Exchangeable Sodium	mg/kg	206	220
8	Exchangeable Calcium	mg/kg	128	165
9	Exchangeable Magnesium	mg/kg	35	44
10	SAR (SAR)	-	2.3	2.1
11	Water Soluble Chlorides	mg/kg	167	180
12	Organic Carbon	%	0.41	0.48
13	Lead	mg/kg	7.2	6.1
14	Cadmium	mg/kg	0.15	0.13
15	Copper	mg/kg	7.6	8.1
16	Zinc	mg/kg	7.9	8.5

The values meet the CPCB/APPCB Prescribed standards. AKPL is submitting the reports on Half-yearly basis to MoEF & CC.

Power supply & DG Sets Monitoring

The Port is being supplied with Power Grid & Non-conventional source of energy through Power Grid for uninterrupted power supply. (BLYTH Wind Park Pvt. Ltd., Ananthapur Dist., Andhra Pradesh)

- The DG Sets are being operated as back up for emergency lighting & safety during power breakdowns.
- The port is sampling of Flue gas emissions of DG Sets through an NABL Accredited 3rd Party and submitting the analysis reports the concerned departments. Latest Analysis reports dated 19.09.2023 are as below:

SAMPLE PARTICULARS	:	DG SET EMISSION
Source of Collection	:	1. 380 KVA DG SET (Port Admin) 2. 250 KVA DG SET (SS - 2) 3. 320 KVA DG SET (Admin Block) 4. DG SET (SS-1) 5. 320 KVA DG SET (GH)

S. No.	DESCRIPTION	UNIT	RESULT				
			1	2	3	4	5

1.	Diameter of the Stack	mts	0.16	0.16	0.16	0.16	0.16	
2.	C/s Area of Stack	sq.mt	0.02	0.02	0.02	0.02	0.02	
3.	Pitot Coefficient	-	0.87	0.87	0.87	0.87	0.87	
4.	Sp: gravity of Fluid	-	1.0	1.0	1.0	1.0	1.0	
5.	Temperature @ DGM	°C	30	31	32	32	33	
6.	Stack temperature	°C	160	139	169	152	135	
7.	Nozzle Diameter	mm	10	10	10	10	10	
8.	Exit Velocity	m/sec	14.1	13.0	14.8	12.0	11.6	
9.	Gas Quantity	m ³ /hr	1015	936	1065	864	835	
10.	Duration of Sampling	minutes	30	30	30	30	30	
11.	Fuel used	-	Diesel					

Emission Rate

S. NO.	PARAMETER	UNIT	METHOD	RESULT				
				1	2	3	4	5
1.	Particulate Matter – PM	g/kw-hr	IS:11255-P-1	0.12	0.15	0.23	0.16	0.14
2.	Oxides of Nitrogen – NOx	g/kw-hr	IS:11255-P-2	1.30	1.72	1.65	1.38	1.35
3.	Carbon Monoxide – CO	g/kw-hr	IS:11255-P-7	0.57	0.69	0.64	0.52	0.43
4.	Hydrocarbons - HC	g/kw-hr	IS:11255	0.20	0.17	0.21	0.15	0.13

Source of Collection : 6. 250 KVA DG SET (GH2)
7. 250 KVA DG SET (GARRAGE)
8. 500 KVA DG SET (NCT – 1)
9. 500 KVA DG SET (NCT YARD)
10. 125 KVA DG SET (L4)

S. No.	DESCRIPTION	UNIT	RESULT					
			6	7	8	9	10	
1.	Diameter of the Stack	mts	0.16	0.16	0.16	0.16	0.16	
2.	C/s Area of Stack	sq.mt	0.02	0.02	0.02	0.02	0.02	
3.	Pitot Coefficient	-	0.87	0.87	0.87	0.87	0.87	
4.	Sp: gravity of Fluid	-	1.0	1.0	1.0	1.0	1.0	
5.	Temperature @ DGM	°C	33	34	32	32	31	
6.	Stack temperature	°C	133	146	167	165	119	
7.	Nozzle Diameter	mm	10	10	10	10	10	
8.	Exit Velocity	m/sec	11.2	12.4	14.5	14.8	10.9	
9.	Gas Quantity	m ³ /hr	806	892	1044	1065	784	
10.	Duration of Sampling	minutes	30	30	30	30	30	
11.	Fuel used	-	Diesel					

Emission Rate

S. NO.	PARAMETER	UNIT	METHOD	RESULT				
				6	7	8	9	10
1.	Particulate Matter – PM	g/kw-hr	IS:11255-P-1	0.11	0.16	0.19	0.24	0.09
2.	Oxides of Nitrogen – NOx	g/kw-hr	IS:11255-P-2	1.19	1.70	1.45	1.66	1.15
3.	Carbon Monoxide – CO	g/kw-hr	IS:11255-P-7	0.45	0.59	0.54	0.55	0.44
4.	Hydrocarbons - HC	g/kw-hr	IS:11255	0.09	0.15	0.18	0.19	0.07

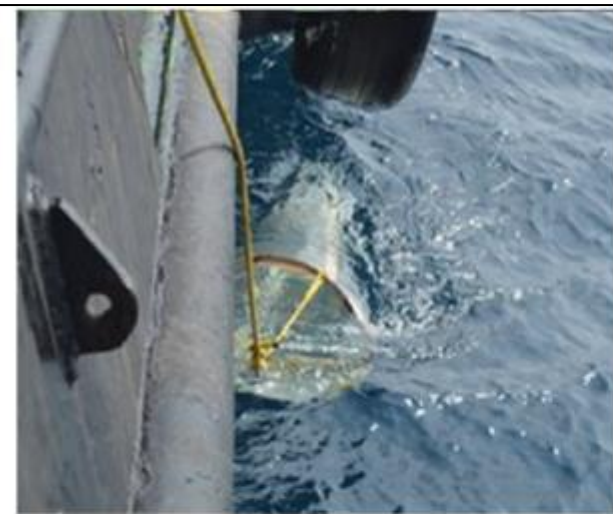
4.6 Maintenance of Yard & Storm drains

AKPL is maintaining the storm water drains periodically and especially before monsoon season by removing the sludge accumulated to prevent possible flooding of the surrounding areas.



4.7 Marine Monitoring

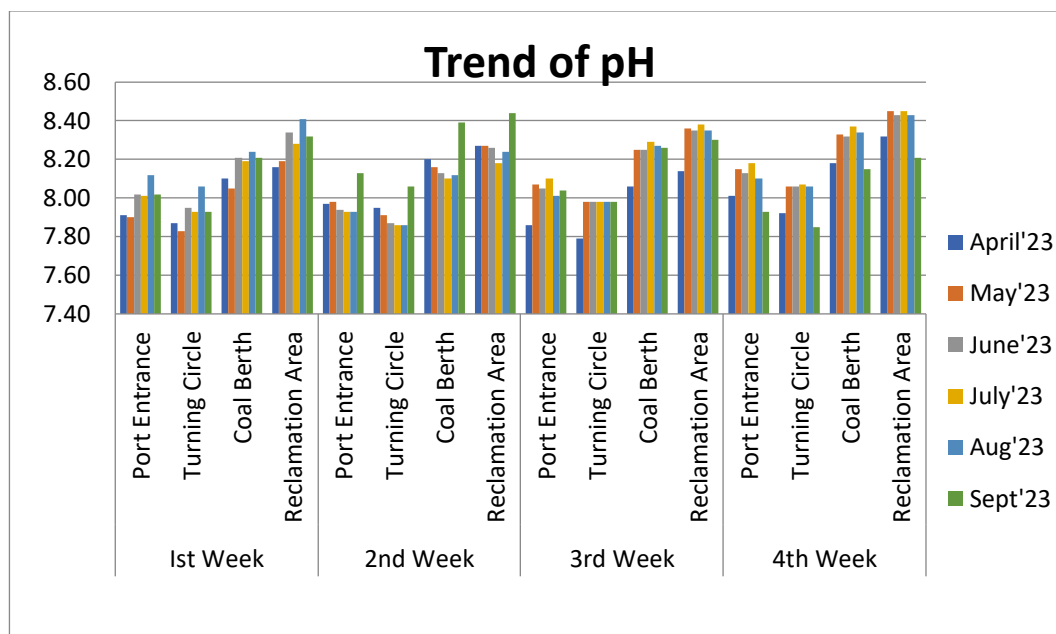
S. No.	Parameter	Frequency	Location & No. of Samples
1.	<p>Marine Water monitoring (Low Tide and High Tide)</p> <p>Physical Analysis: pH, Temperature, Salinity, Density, TDS, TSS & Turbidity</p> <p>Chemical Analysis: Potassium, COD, BOD, Oil & Grease, DO, Nitrates, Nitrites, Ammonia, Phosphates, Chlorides, Sodium, Sulphates, Silica, Reactive Silica, Total Phosphorus, Total Nitrogen</p> <p>Heavy Metals: Lead, Cadmium, Copper, Zinc</p> <p>Biological Analysis:</p> <ul style="list-style-type: none"> i.Primary Productivity ii.Chlorophyll iii.Phytoplankton iv.Numerical Abundance v.Diversity vi.Zooplankton vii.Diversity viii.Biomass ix.Coliforms x.Fecal coliforms 	Weekly Once every month/monthly once	<p>4 Locations</p> <ul style="list-style-type: none"> I.Port entrance II.Turning circle III.Coal berth IV.Reclamation area <p>2 locations</p> <ul style="list-style-type: none"> V.Buckingham canal (creek) VI.Kandalerru (creek)
2.	<p>Marine Sediment:</p> <p>Physical: Sediment composition, Silt + Clay, Sand, Org matter, pH</p> <p>Chemical: Nitrogen, Phosphorus, Potassium, Sodium, Biological, Benthic Communities, MacroBenthos, Epifauna numerical abundance, Infauna numerical abundance</p> <p>Heavy Metals: Lead, Cadmium, Copper, Zinc.</p>	Weekly once every month	<p>4 Locations</p> <ul style="list-style-type: none"> i.Port Entrance – Approach channel ii.Turning circle iii.Near to Coal berths iv.Reclamation
3.	<p>Marine Water Turbidity Monitoring</p> <p>Turbidity, Total Dissolved Solids and Total Suspended Solids in low tide, high tide and medium tide</p>	Weekly once every month	<p>4 Location</p> <ul style="list-style-type: none"> i.Port Entrance – Approach channel ii.Turning circle iii.Near to Coal berths iv.Reclamation Area





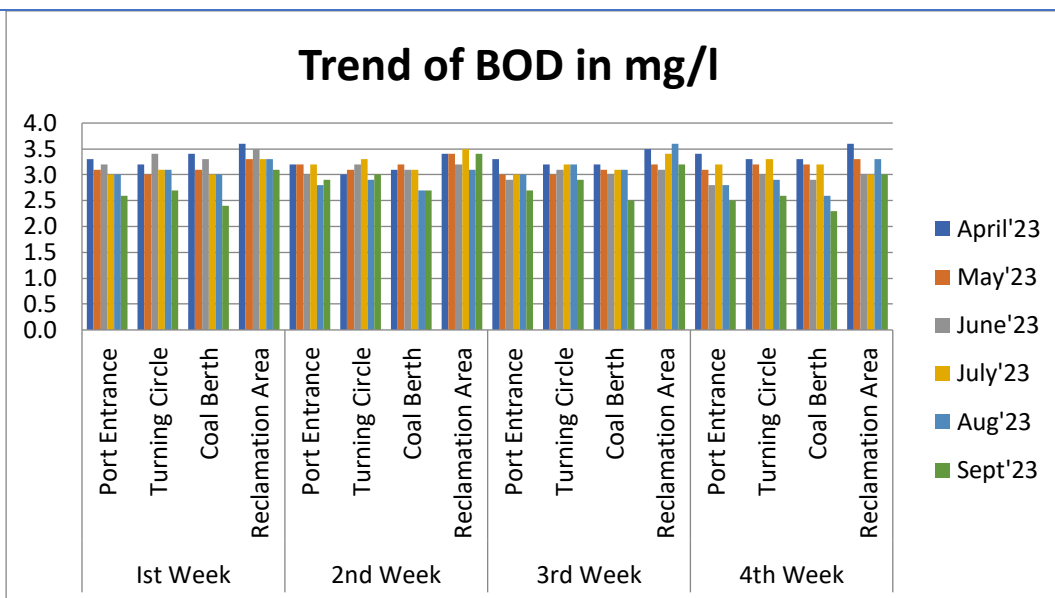
Marine waters sampling values for the period from April 2023 to September 2023:

Status of Marine water Quality



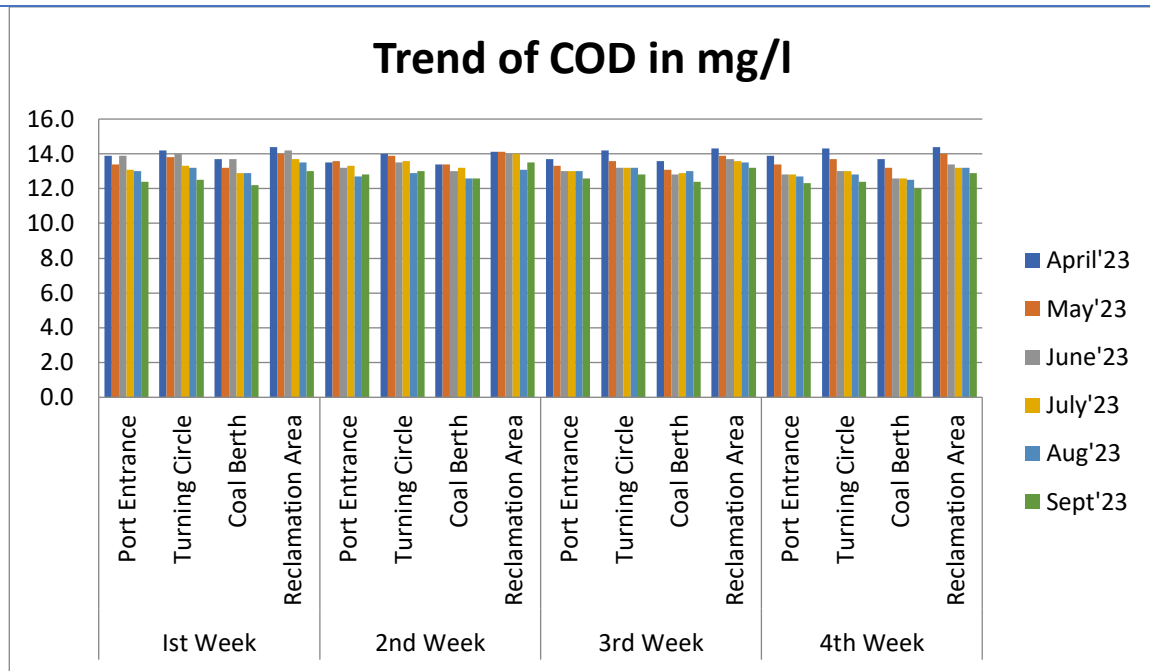
pH of Marine water varied between 7.79 to 8.45.

Month	1st Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	7.91	7.87	8.10	8.16	7.97	7.95	8.20	8.27
May'23	7.90	7.83	8.05	8.19	7.98	7.91	8.16	8.27
June'23	8.02	7.95	8.21	8.34	7.94	7.87	8.13	8.26
July'23	8.01	7.93	8.19	8.28	7.93	7.86	8.10	8.18
Aug'23	8.12	8.06	8.24	8.41	7.93	7.86	8.12	8.24
Sept'23	8.02	7.93	8.21	8.32	8.13	8.06	8.39	8.44
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	7.86	7.79	8.06	8.14	8.01	7.92	8.18	8.32
May'23	8.07	7.98	8.25	8.36	8.15	8.06	8.33	8.45
June'23	8.05	7.98	8.25	8.35	8.13	8.06	8.32	8.43
July'23	8.10	7.98	8.29	8.38	8.18	8.07	8.37	8.45
Aug'23	8.01	7.98	8.27	8.35	8.10	8.06	8.34	8.43
Sept'23	8.04	7.98	8.26	8.30	7.93	7.85	8.15	8.21



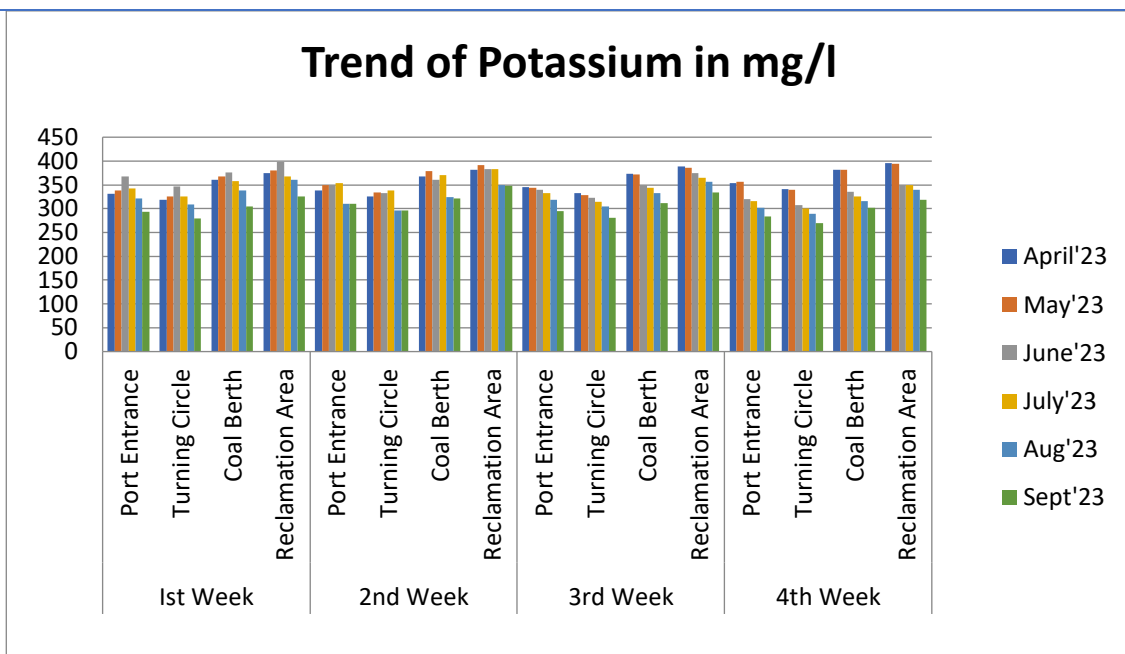
❖ BOD of Marine Water varied between 2.3 to 3.6 mg/l

Month	1st Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	3.3	3.2	3.4	3.6	3.2	3.0	3.1	3.4
May'23	3.1	3.0	3.1	3.3	3.2	3.1	3.2	3.4
June'23	3.2	3.4	3.3	3.5	3.0	3.2	3.1	3.2
July'23	3.0	3.1	3.0	3.3	3.2	3.3	3.1	3.5
Aug'23	3.0	3.1	3.0	3.3	2.8	2.9	2.7	3.1
Sept'23	2.6	2.7	2.4	3.1	2.9	3.0	2.7	3.4
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	3.3	3.2	3.2	3.5	3.4	3.3	3.3	3.6
May'23	3.0	3.0	3.1	3.2	3.1	3.2	3.2	3.3
June'23	2.9	3.1	3.0	3.1	2.8	3.0	2.9	3.0
July'23	3.0	3.2	3.1	3.4	3.2	3.3	3.2	3.0
Aug'23	3.0	3.2	3.1	3.6	2.8	2.9	2.6	3.3
Sept'23	2.7	2.9	2.5	3.2	2.5	2.6	2.3	3.0



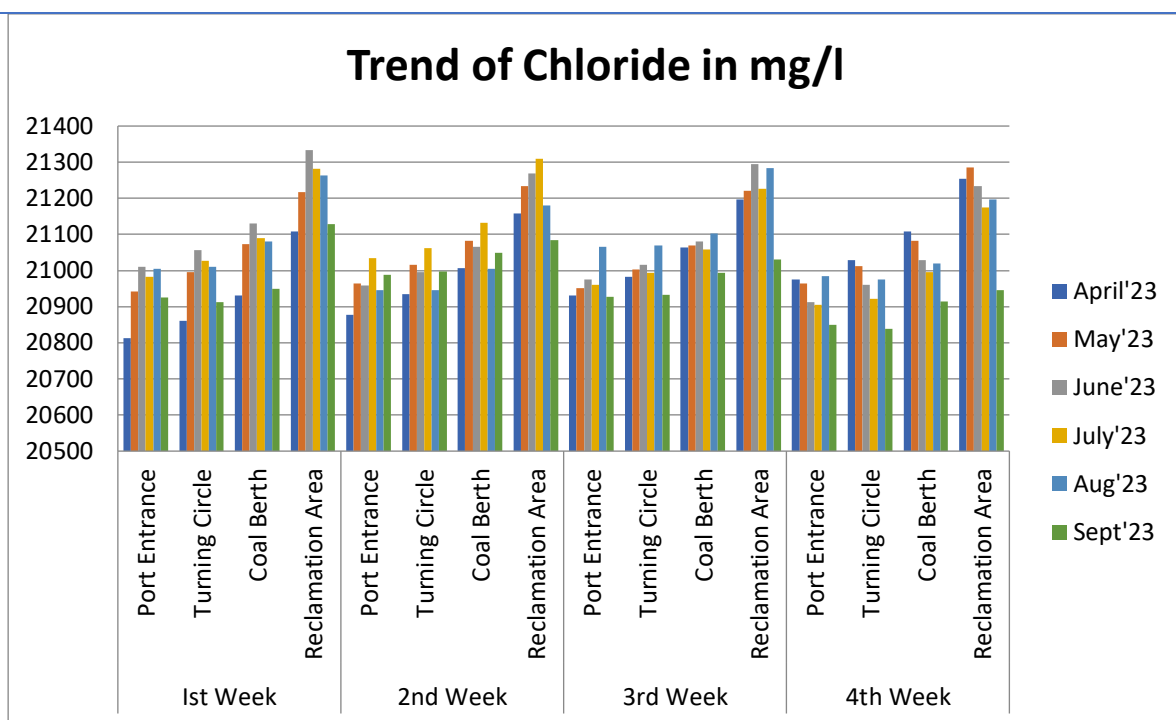
❖ COD of Marine Water varied between 12.0 to 14.4 mg/l

Month	1st Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	13.9	14.2	13.7	14.4	13.5	14.0	13.4	14.1
May'23	13.4	13.8	13.2	14.0	13.6	13.9	13.4	14.1
June'23	13.9	14.0	13.7	14.2	13.2	13.5	13.0	14.0
July'23	13.1	13.3	12.9	13.7	13.3	13.6	13.2	14.0
Aug'23	13.0	13.2	12.9	13.5	12.7	12.9	12.6	13.1
Sept'23	12.4	12.5	12.2	13.0	12.8	13.0	12.6	13.5
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	13.7	14.2	13.6	14.3	13.9	14.3	13.7	14.4
May'23	13.3	13.6	13.1	13.9	13.4	13.7	13.2	14.0
June'23	13.0	13.2	12.8	13.7	12.8	13.0	12.6	13.4
July'23	13.0	13.2	12.9	13.6	12.8	13.0	12.6	13.2
Aug'23	13.0	13.2	13.0	13.5	12.7	12.8	12.5	13.2
Sept'23	12.6	12.8	12.4	13.2	12.3	12.4	12.0	12.9



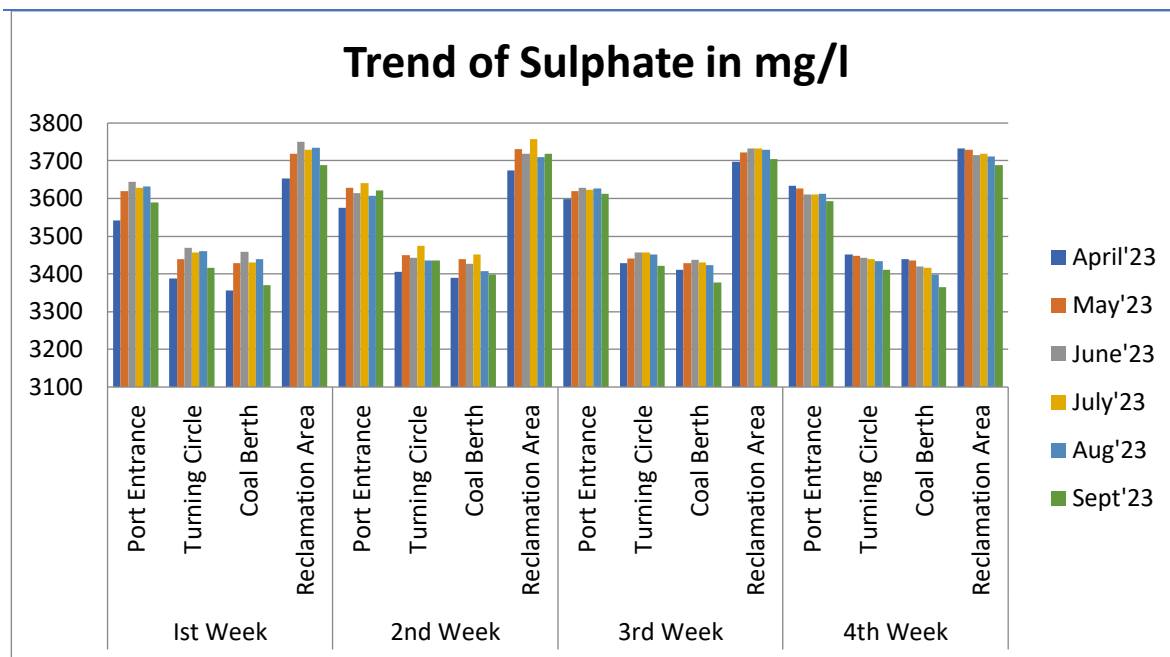
❖ **Potassium Concentration in Marine water varied between 270 to 398 mg/l**

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	331	319	360	374	338	326	368	381
May'23	338	325	367	380	350	334	379	392
June'23	368	347	376	398	349	332	361	383
July'23	342	325	358	368	354	338	370	383
Aug'23	321	309	338	360	310	296	324	350
Sept'23	293	280	304	326	310	296	321	348
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	345	332	373	389	353	341	382	396
May'23	344	329	372	386	356	340	381	394
June'23	340	323	350	374	320	308	336	350
July'23	332	314	344	365	316	301	326	350
Aug'23	319	305	332	357	302	289	316	340
Sept'23	295	281	311	334	284	270	302	318



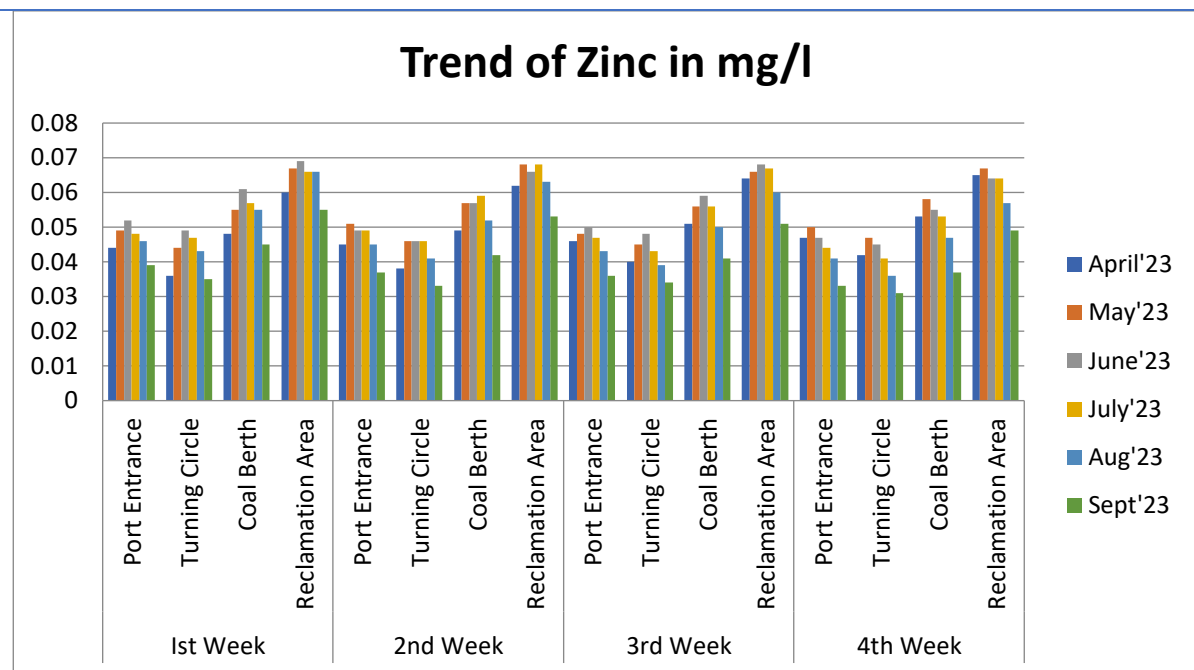
❖ Chloride concentration in Marine water varied between 20813 to 21334 mg/l

Month	1st Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	20813	20860	20931	21108	20877	20934	21006	21158
May'23	20942	20995	21073	21218	20964	21015	21083	21234
June'23	21010	21056	21130	21334	20958	20996	21065	21269
July'23	20983	21027	21090	21282	21034	21062	21132	21309
Aug'23	21004	21010	21081	21263	20946	20946	21005	21180
Sept'23	20926	20912	20949	21128	20989	20997	21049	21085
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	20931	20983	21064	21196	20976	21029	21109	21254
May'23	20951	21002	21070	21220	20965	21013	21082	21285
June'23	20976	21016	21081	21294	20912	20960	21029	21234
July'23	20960	20994	21059	21226	20905	20921	20996	21175
Aug'23	21066	21070	21102	21284	20984	20976	21020	21197
Sept'23	20736	20798	20875	21026	20699	20758	20835	20986



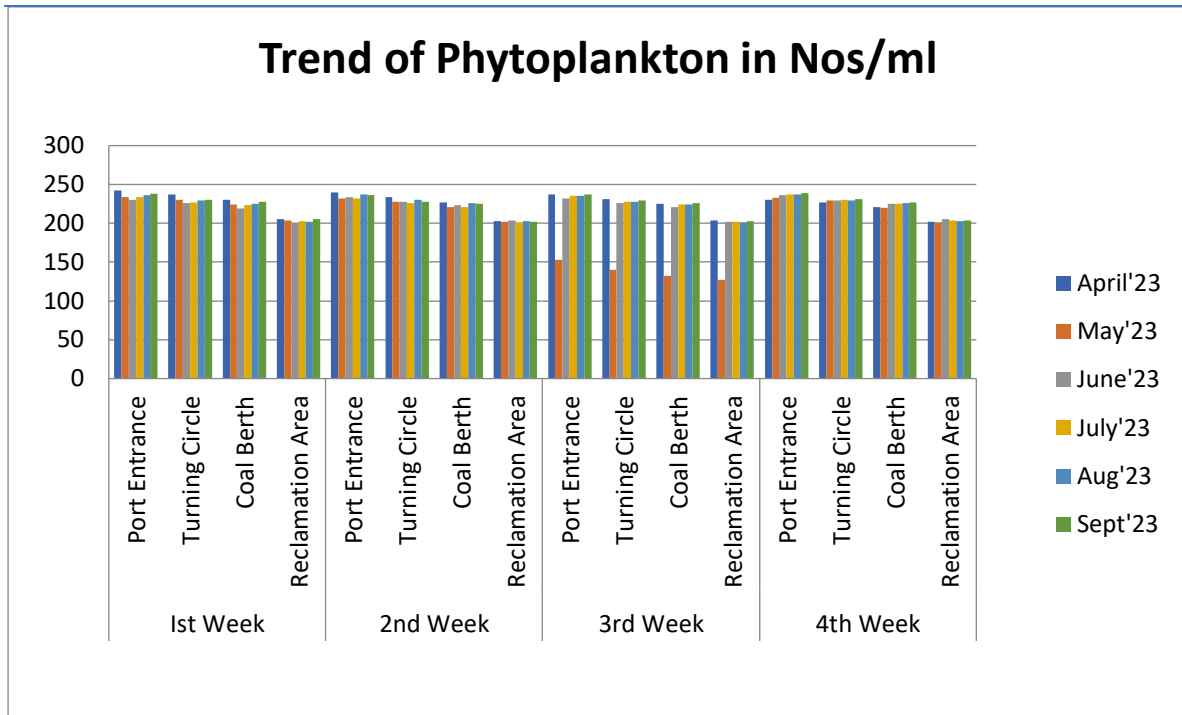
❖ Sulphate concentration in Marine water varied between 3356 to 3757 mg/l

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	3541	3387	3356	3653	3576	3405	3389	3675
May'23	3620	3439	3428	3719	3628	3450	3439	3731
June'23	3645	3470	3458	3751	3615	3442	3426	3719
July'23	3629	3457	3431	3730	3641	3475	3452	3757
Aug'23	3631	3460	3439	3735	3608	3435	3407	3709
Sept'23	3590	3416	3370	3689	3621	3435	3398	3718
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	3598	3428	3410	3697	3634	3452	3440	3732
May'23	3620	3441	3428	3722	3627	3448	3435	3729
June'23	3629	3456	3438	3732	3611	3442	3419	3715
July'23	3623	3456	3430	3732	3610	3439	3417	3719
Aug'23	3627	3451	3423	3730	3612	3433	3398	3711
Sept'23	3612	3422	3378	3705	3593	3411	3364	3689



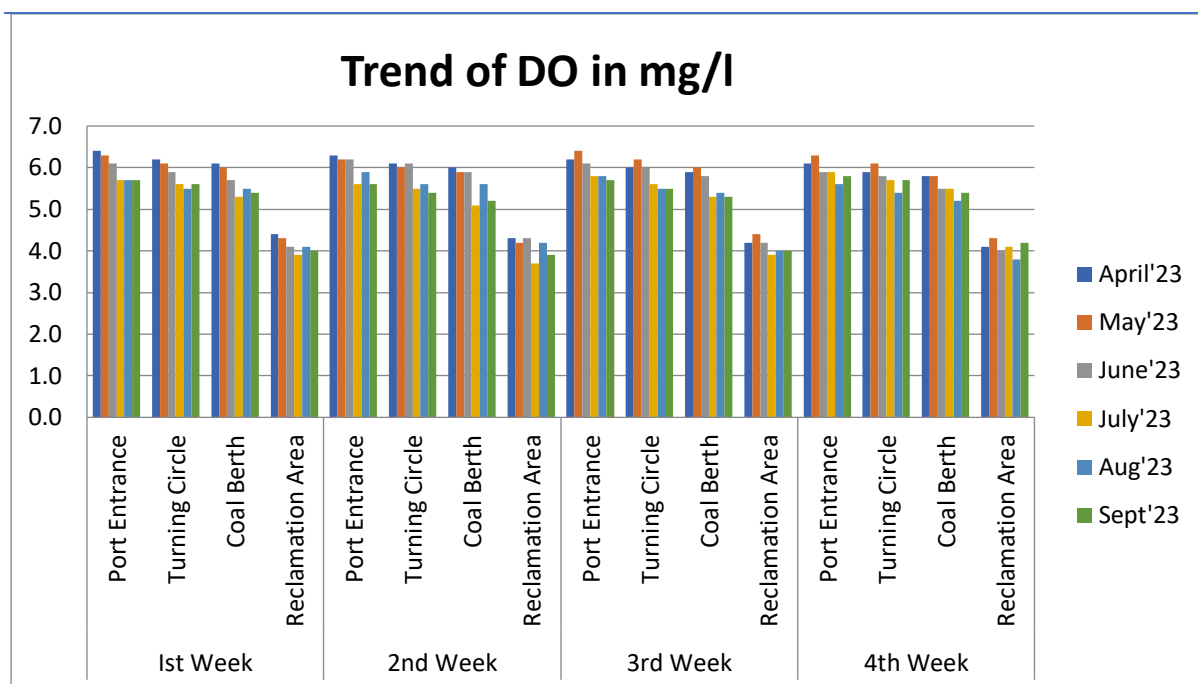
❖ Zinc concentration in Marine water varied between 0.031 to 0.069 mg/l

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	0.044	0.036	0.048	0.06	0.045	0.038	0.049	0.062
May'23	0.049	0.044	0.055	0.067	0.051	0.046	0.057	0.068
June'23	0.052	0.049	0.061	0.069	0.049	0.046	0.057	0.066
July'23	0.048	0.047	0.057	0.066	0.049	0.046	0.059	0.068
Aug'23	0.046	0.043	0.055	0.066	0.045	0.041	0.052	0.063
Sept'23	0.039	0.035	0.045	0.055	0.037	0.033	0.042	0.053
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	0.046	0.04	0.051	0.064	0.047	0.042	0.053	0.065
May'23	0.048	0.045	0.056	0.066	0.05	0.047	0.058	0.067
June'23	0.05	0.048	0.059	0.068	0.047	0.045	0.055	0.064
July'23	0.047	0.043	0.056	0.067	0.044	0.041	0.053	0.064
Aug'23	0.043	0.039	0.05	0.06	0.041	0.036	0.047	0.057
Sept'23	0.036	0.034	0.041	0.051	0.033	0.031	0.037	0.049



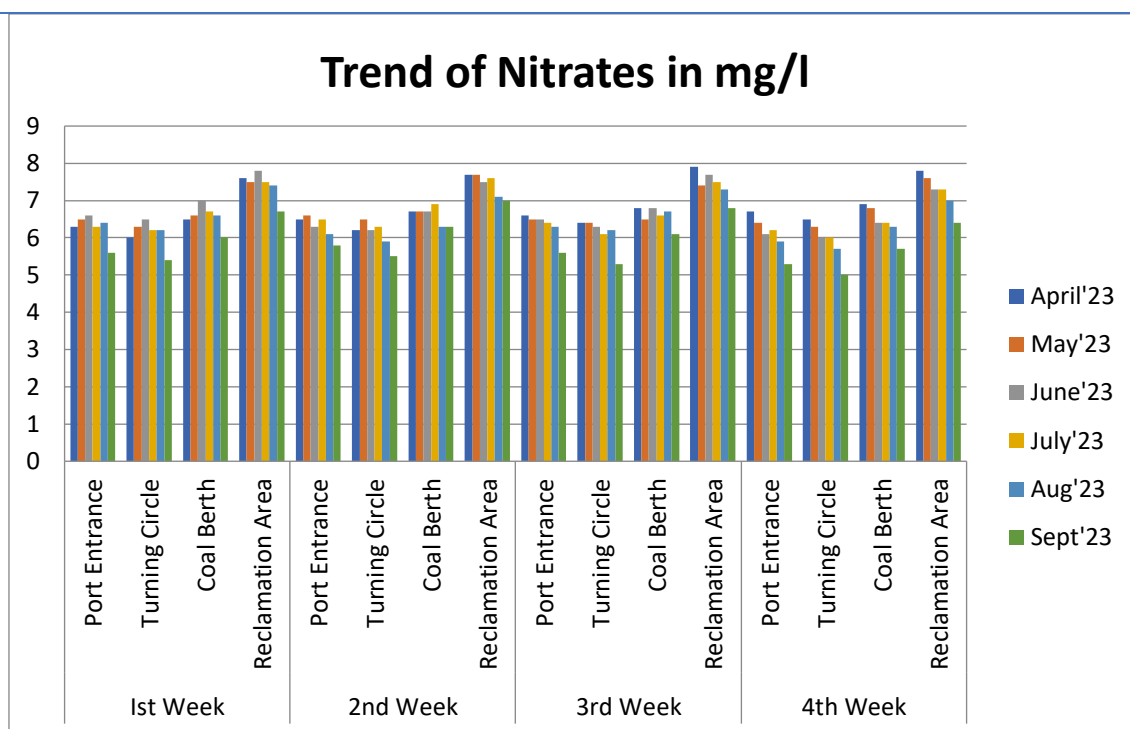
❖ **Phytoplankton in Marine water varied between 127 to 242 No./ml**

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	242	237	230	205	240	234	227	203
May'23	234	230	224	204	232	228	221	202
June'23	230	226	219	200	234	228	223	204
July'23	234	227	223	203	232	226	221	201
Aug'23	236	229	225	202	237	230	226	203
Sept'23	238	230	228	205	236	228	225	202
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	237	231	225	204	230	227	221	202
May'23	153	140	132	127	233	229	220	201
June'23	232	226	221	202	236	229	225	205
July'23	235	228	224	202	237	230	225	204
Aug'23	235	228	224	201	237	229	226	203
Sept'23	237	229	226	203	239	231	227	204



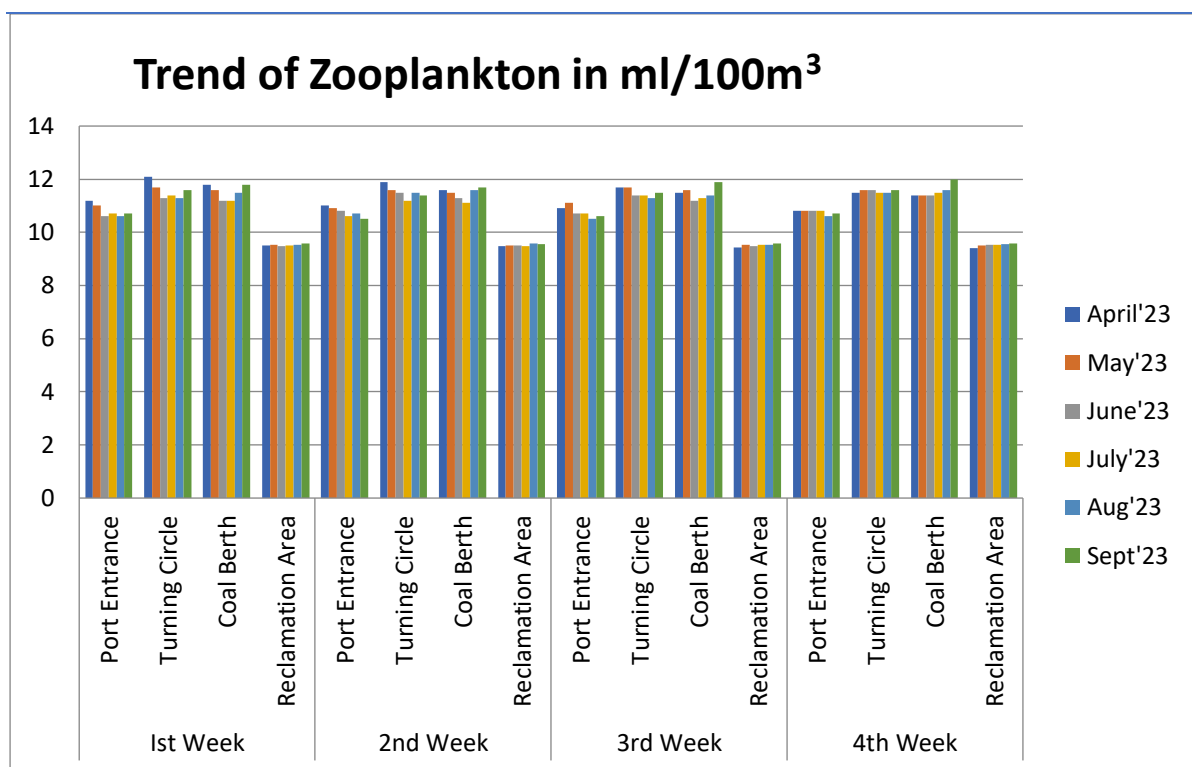
❖ DO in Marine water varied between 3.7 to 6.4 mg/l

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	6.4	6.2	6.1	4.4	6.3	6.1	6.0	4.3
May'23	6.3	6.1	6.0	4.3	6.2	6.0	5.9	4.2
June'23	6.1	5.9	5.7	4.1	6.2	6.1	5.9	4.3
July'23	5.7	5.6	5.3	3.9	5.6	5.5	5.1	3.7
Aug'23	5.7	5.5	5.5	4.1	5.9	5.6	5.6	4.2
Sept'23	5.7	5.6	5.4	4.0	5.6	5.4	5.2	3.9
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	6.2	6.0	5.9	4.2	6.1	5.9	5.8	4.1
May'23	6.4	6.2	6.0	4.4	6.3	6.1	5.8	4.3
June'23	6.1	6.0	5.8	4.2	5.9	5.8	5.5	4.0
July'23	5.8	5.6	5.3	3.9	5.9	5.7	5.5	4.1
Aug'23	5.8	5.5	5.4	4.0	5.6	5.4	5.2	3.8
Sept'23	5.7	5.5	5.3	4.0	5.8	5.7	5.4	4.2



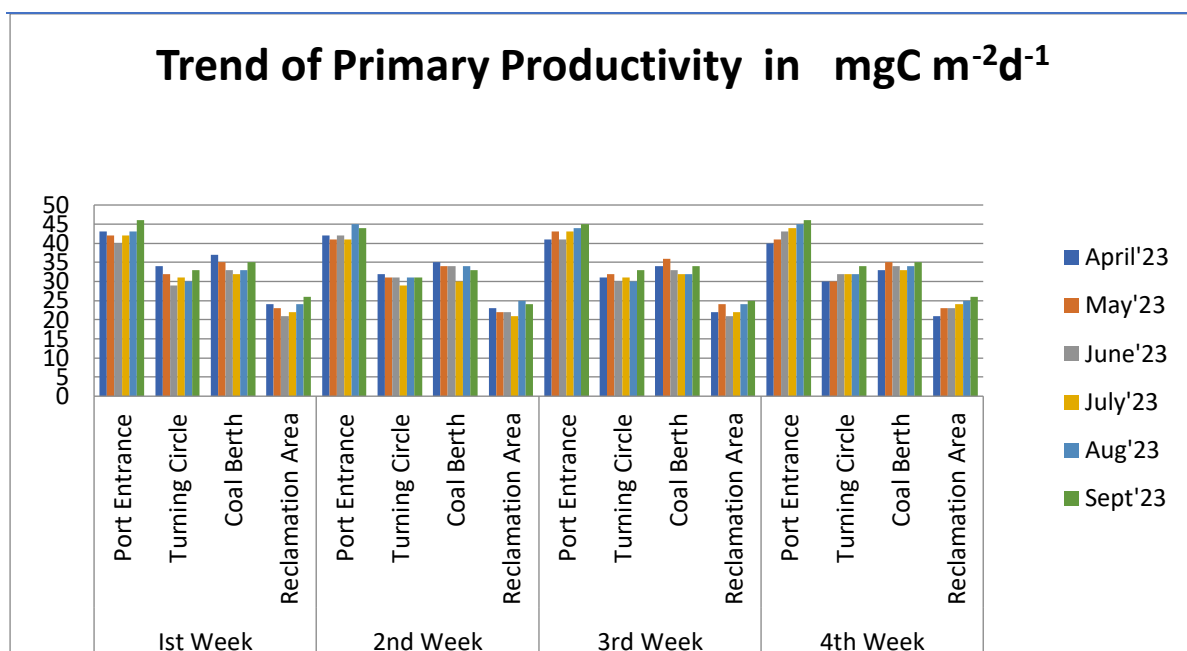
❖ Nitrates in Marine water varied between 5.0 to 7.9 mg/l

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	6.3	6	6.5	7.6	6.5	6.2	6.7	7.7
May'23	6.5	6.3	6.6	7.5	6.6	6.5	6.7	7.7
June'23	6.6	6.5	7	7.8	6.3	6.2	6.7	7.5
July'23	6.3	6.2	6.7	7.5	6.5	6.3	6.9	7.6
Aug'23	6.4	6.2	6.6	7.4	6.1	5.9	6.3	7.1
Sept'23	5.6	5.4	6	6.7	5.8	5.5	6.3	7
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	6.6	6.4	6.8	7.9	6.7	6.5	6.9	7.8
May'23	6.5	6.4	6.5	7.4	6.4	6.3	6.8	7.6
June'23	6.5	6.3	6.8	7.7	6.1	6	6.4	7.3
July'23	6.4	6.1	6.6	7.5	6.2	6	6.4	7.3
Aug'23	6.3	6.2	6.7	7.3	5.9	5.7	6.3	7
Sept'23	5.6	5.3	6.1	6.8	5.3	5	5.7	6.4



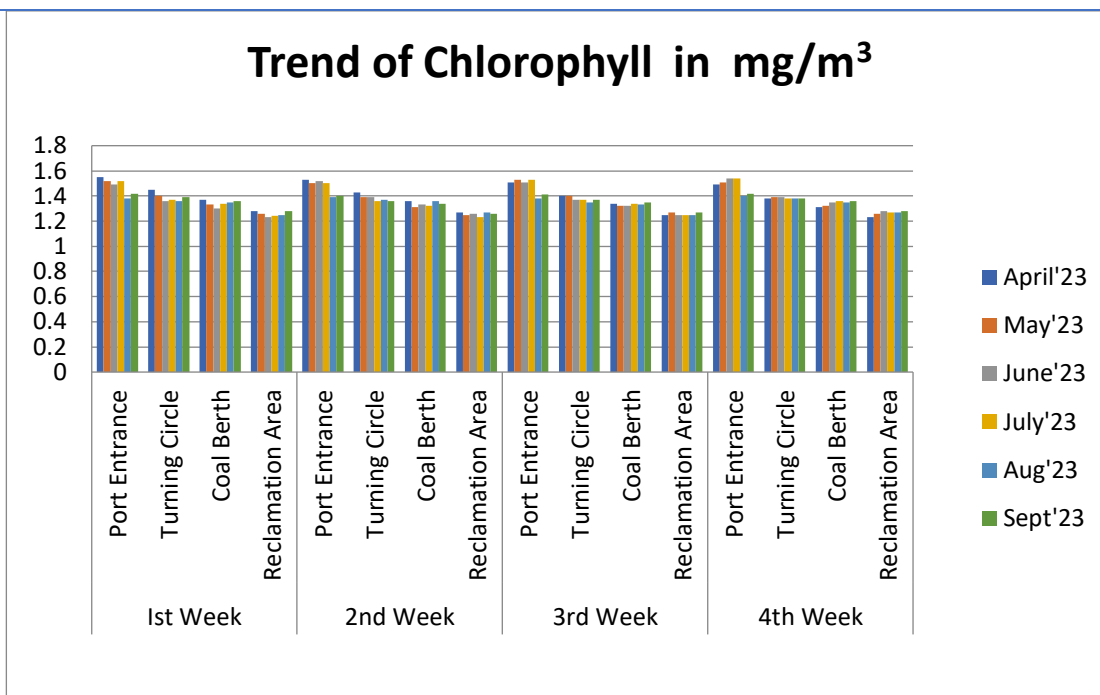
❖ Zoo plankton in Marine water varied between 9.4 to 12.1 ml/100m³

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	11.2	12.1	11.8	9.5	11.0	11.9	11.6	9.47
May'23	11.0	11.7	11.6	9.52	10.9	11.6	11.5	9.5
June'23	10.6	11.3	11.2	9.48	10.8	11.5	11.3	9.51
July'23	10.7	11.4	11.2	9.5	10.6	11.2	11.1	9.49
Aug'23	10.6	11.3	11.5	9.52	10.7	11.5	11.6	9.57
Sept'23	10.7	11.6	11.8	9.58	10.5	11.4	11.7	9.55
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	10.9	11.7	11.5	9.44	10.8	11.5	11.4	9.4
May'23	11.1	11.7	11.6	9.52	10.8	11.6	11.4	9.51
June'23	10.7	11.4	11.2	9.49	10.8	11.6	11.4	9.52
July'23	10.7	11.4	11.3	9.52	10.8	11.5	11.5	9.54
Aug'23	10.5	11.3	11.4	9.54	10.6	11.5	11.6	9.56
Sept'23	10.6	11.5	11.9	9.57	10.7	11.6	12.0	9.59



❖ Primary Productivity in Marine water varied between 21 to 46 $\text{mgC m}^{-2}\text{d}^{-1}$

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	43	34	37	24	42	32	35	23
May'23	42	32	35	23	41	31	34	22
June'23	40	29	33	21	42	31	34	22
July'23	42	31	32	22	41	29	30	21
Aug'23	43	30	33	24	45	31	34	25
Sept'23	46	33	35	26	44	31	33	24
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	41	31	34	22	40	30	33	21
May'23	43	32	36	24	41	30	35	23
June'23	41	30	33	21	43	32	34	23
July'23	43	31	32	22	44	32	33	24
Aug'23	44	30	32	24	45	32	34	25
Sept'23	45	33	34	25	46	34	35	26



❖ Chlorophyll in Marine water varied between 1.23 to 1.55 mg/m³

Month	Ist Week				2nd Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	1.55	1.45	1.37	1.28	1.53	1.43	1.36	1.27
May'23	1.52	1.4	1.33	1.26	1.5	1.39	1.31	1.25
June'23	1.49	1.36	1.3	1.23	1.52	1.39	1.33	1.26
July'23	1.52	1.37	1.34	1.24	1.5	1.36	1.32	1.23
Aug'23	1.38	1.36	1.35	1.25	1.39	1.37	1.36	1.27
Sept'23	1.42	1.39	1.36	1.28	1.4	1.36	1.34	1.26
Month	3rd Week				4th Week			
	Port Entrance	Turning Circle	Coal Berth	Reclamation Area	Port Entrance	Turning Circle	Coal Berth	Reclamation Area
April'23	1.51	1.4	1.34	1.25	1.49	1.38	1.31	1.23
May'23	1.53	1.4	1.32	1.27	1.51	1.39	1.32	1.26
June'23	1.51	1.37	1.32	1.25	1.54	1.39	1.35	1.28
July'23	1.53	1.37	1.34	1.25	1.54	1.38	1.36	1.27
Aug'23	1.38	1.35	1.33	1.25	1.4	1.38	1.35	1.27
Sept'23	1.41	1.37	1.35	1.27	1.42	1.38	1.36	1.28

Summary of Marine water quality results for period April 23 – September 23

- pH -values are in the range 7.79 to 8.45.
- BOD -values are in the range 2.3 to 3.6 mg/l
- COD - values are in the range 12.0 to 14.4 mg/l
- Potassium - values are in the range 270 to 398 mg/l
- Chloride - values are in the range 20813 to 21334 mg/l
- Sulphates - values are in the range to 3356 to 3757 mg/l
- Zinc - values are in the range 0.031 to 0.069 mg/l
- Phytoplankton - values are in the range 127 to 242 No./ml
- DO - values are in the range 3.7 to 6.4 mg/l
- Nitrates - values are in the range 5.0 to 7.9 mg/l
- Zoo plankton - values are in the range 9.40 to 12.1 ml/100m³.
- Primary productivity - values are in the range 21 to 46 mgC m⁻²d⁻¹
- Chlorophyll - values are in the range 1.23 to 1.55 mg/m³.

The values are meeting the Prescribed Water quality standards for coastal waters (SW – 4) as per the MoEF & CC Notification dated 22.12.1998. AGPL is submitting the reports on monthly basis to APPCB & on Half-yearly basis to MoEF & CC.

**4.8 Marine waters Turbidity for the period from April 2023 to September 2023:
Location - Port Entrance**

Month	1 st Week		2 nd Week		3 rd Week		4 th Week	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	5.8	8.1	6.2	7.6	6.0	7.2	5.9	7.7
May'23	5.0	7.8	6.4	7.8	5.8	7.0`	6.1	7.9
June'23	5.2	8.0	6.2	7.6	6.0	7.2	5.9	7.7
July'23	5	7.8	5.4	8.1	5.2	7.9	4.9	7.6
Aug'23	5.2	7.7	5.0	7.3	5.3	7.6	5.0	7.3
Sept'23	5.0	7.5	5.3	7.5	5.1	7.3	5.2	7.1

Location - Turning Circle

Month	1 st Week		2 nd Week		3 rd Week		4 th Week	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	7.1	7.6	7.9	9.0	6.1	7.4	7.0	7.9
May'23	6.9	7.4	8.1	9.2	6.0	7.2	7.1	8.1
June'23	7.1	7.6	7.6	9	6.3	7.5	6.8	7.9
July'23	6.9	7.5	7.2	7.9	7	7.7	6.6	7.4
Aug'23	6.8	7.5	6.5	7.1	6.7	7.5	6.2	7.1
Sept'23	6.5	6.8	6.4	6	7.3	7.4	7.2	6.8

Location - Coal Berth

Month	1 st Week		2 nd Week		3 rd Week		4 th Week	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	6.5	8.9	7	8.8	5.7	6.9	5.3	8
May'23	6.4	8.7	7.2	9	5.5	6.7	5.5	8.3
June'23	6.6	8.9	7.0	8.8	5.8	6.9	5.3	8.0
July'23	6.4	8.7	6.7	9.0	6.5	8.7	6.2	8.3
Aug'23	6.4	8.4	6.2	8.0	6.4	8.3	6.0	7.8
Sept'23	6.1	8.1	6.5	8.3	6.2	8	5.8	7.5

Location - Reclamation Area

Month	1 st Week		2 nd Week		3 rd Week		4 th Week	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	19.1	20.3	19.1	19.0	19.1	21.4	19.2	21.5
May'23	18.7	19.9	19.5	19.3	18.7	6.7	19.6	21.8
June'23	19.0	20.1	19.3	19.0	19.1	21.4	19.2	22.9
July'23	18.2	19.2	19	20.1	18.5	19	17.4	18.2
Aug'23	18.2	19.0	17.0	18.2	18.2	19.1	16.9	17.8
Sept'23	17.3	18.3	17.8	19.0	17.1	17.9	16.2	17.3

Summary of Turbidity: Coal berth varied between 4.4 to 9.0 NTU: Turning circle varied between 4.0 to 9.2 NTU and Approach channel varied between 3.9 to 8.1 NTU: Reclamation Area varied between 14.6 to 22.9 NTU

Deep Sea Water Quality

Turbidity in Deep Sea

Month	DS1		DS2		DS3	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	5.5	6.5	5.1	5.8	5.7	6.5
May'23	5.6	6.7	5.3	6.0	5.9	6.8
June'23	5.4	6.4	5	5.8	5.6	6.6
July'23	5.6	6.7	5.2	5.9	5.8	6.9
Aug'23	5.8	7.0	5.4	6.3	6.0	7.2
Sept'23	5.6	4.8	5.2	6.1	5.8	7

TSS in Deep Sea

Month	DS1		DS2		DS3	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	6	7.2	7.2	8	6.9	8.3
May'23	6.9	8.0	8.1	8.9	8.8	9.6
June'23	6.3	7.5	7.6	8.2	8.2	9
July'23	6.8	8	7.9	8.7	8.9	9.6
Aug'23	7.2	8.6	8.1	9.3	9.1	10.2
Sept'23	6.8	8.0	7.3	8.7	8.2	9.4

TDS in Deep Sea

Month	DS1		DS2		DS3	
	Low Tide	High Tide	Low Tide	High Tide	Low Tide	High Tide
April'23	34791.0	34950.0	35298.0	35482.0	36121.0	36290.0
May'23	34835	34995	35328	35510	36130	36324
June'23	34339	34145	34820	34610	35945	35727
July'23	34837	35094	35397	35651	36165	36419
Aug'23	35020	35263	35573	35807	36297	36540
Sept'23	34765	34998	35286	35525	36045	36290

4.9 Water Conservation Measures

Rainwater Harvesting Tanks are also maintained in the port premises.



4.10 Dust suppression Measures:

• Mechanised Dust Suppression Systems

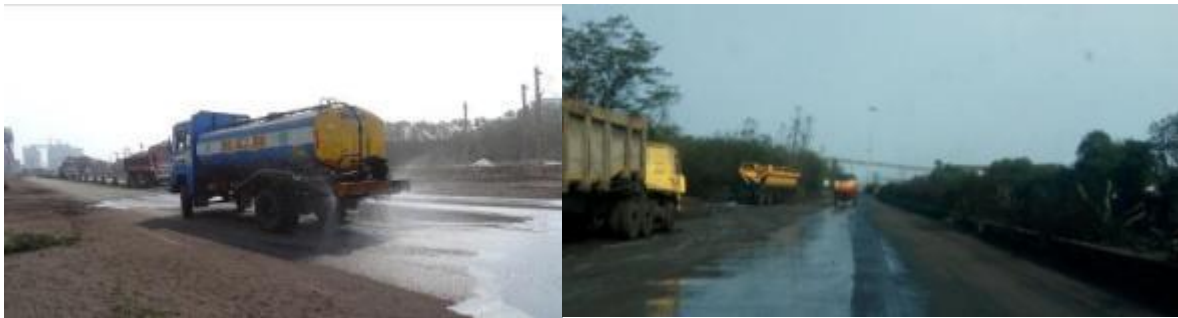
- Ensuring the stacks are continuously wetted with watersprinkling system consisting with 248-gun sprinklers which will sprinkle water in the form of mist up to a range of 50 M, which will suppress the dust at source itself.
- 16 no's hydraulic sweeping machines are deployed for cleaning of roads, warehouses areas and container yards.
- Manual Cleaning of internal roads & other operational areas
- Operating 3 atomizers as innovative technology in dust suppression system.
- Ensuring that the tarpaulin is covered in all sides of the truck/Wagons and tightly tied with rope so that the tarpaulin should not be uncovered while traveling until the truck reaches the destination without any transit spillages.
- A wind barrier screen of 14 meters' height has been developed adjacent to the coal yard, supported with greenbelt is developed at 10-12 meters' height adjacent to the wind screen structure.



Mechanical Dust Suppression System – Water Sprinklers in Coal yards



Block Plantations at storage areas



Road wetting through DSS Tankers



Deployment of Heavy duty road sweeping machines



Vacuum Road Sweeping machines, Manual sweeping Sprinklers for Dry roads



Cargo Trucks and Wagons covered with tarpaulin:

AKPL ensure that the trucks and wagons transporting cargos covered with tarpaulin to avoid fugitive emissions/spillages.





4.11 Truck Wheel Washing facility:



Established & operating an automatic sensor based Truck tyre washing facility and ensuring all the outgoing cargo carrying trucks tyres are cleaned

4.12 Wind Barricade

A wind barrier screen of 14 meters' height has been developed adjacent to the coal yard, supported with greenbelt is developed at 10-12 meters' height adjacent to the wind screen structure.



4.13 Weather Station



AKPL Installed One Weather Station within the Port premises to know the weather forecast. Maximum and Minimum values of each month recorded in the Continuous Weather Monitoring station.



*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

4.14 3rd Party Audit:

Andhra Pradesh Maritime Board vide Agreement. No. 6/2022-23 dated: 02.08.2022 appointed M/s Aarvee Associates Architects Engineers & Consultants Pvt. Ltd., Hyderabad as the Independent Operational Auditor of Adani Krishnapatnam Port Limited.

The last audit was carried by the Auditors for 1st quarter from April to June 2023 and recorded that the Port is complying all the statutory conditions. Copy of the Audit Report Attached as - 25



*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

Chapter - 5

5.0 Promotion of Environment & Sustainability awareness

AKPL is conducting seminars/workshops/programmes/competitions & rallies on Environment & Sustainability among the employees & associates as a part of promoting awareness on the regular basis and on the below mentioned days:

Sl	Name of the day	Day
1	World Earth Day	22 April 2023
2	World Biodiversity Day	22 May 2023
3	World Environment Day	5 June 2023
4	World Ocean Day	8 June 2023
5	World Nature Conservation Day	28 July 2023
6	Ozone Day	16 September 2023
7	Zero Emissions Day	22 September 2023
8	World Nature Day	03 October 2023
9	World Wildlife Day	06 October 2023
10	National Pollution Prevention Day (Bhopal Gas leakage day)	02 December 2023
11	World Soil Day	05 December 2023
12	World Energy Conservation Day	14 December 2023

5.1 World Environment Day – 5th June 2023

On the occasion of World Environment Day 2023, Adani Krishnapatnam Port actively participated in the green rally organized by the Andhra Pradesh Pollution Control Board - Nellore, in collaboration with the Nellore Municipal Corporation



The green rally commenced at VRC Grounds in Nellore and culminated at Shri Kasturbha Kalashetram Nellore. The event was honored by the M Hari Narayanan IAS, Collector and District Magistrate of SPSR Nellore, who graced the occasion as the chief guest and delivered a motivational speech to the participants. To raise awareness about the environment, the APPCB organized stage plays, and the district collector and magistrate flagged off the green rally.



On the occasion of World Environment Day 2023, Adani Krishnapatnam Port, in association with the Adani Foundation, conducted a sapling plantation drive in Krishnapatnam Village at various locations of the village, including in the houses of villagers. The functional heads from Adani Krishnapatnam Port and Adani Foundation guided kids in sapling plantation in the village at various places and raised awareness among the villagers about the significance of sapling plantation and the importance of avoiding products which are made of plastic.



An awareness session was conducted for field staff on plastic pollution and its effects on the environment. The session emphasized the significance of avoiding single-use plastics and explored alternative options for various purposes. The objective was to increase understanding among the staff about the detrimental impact of plastic on the environment and encourage them to adopt sustainable practices. The session aimed to raise awareness and promote the adoption of eco-friendly alternatives to single-use plastics



Paper Clippings:



సూర్య శ్రీ పాట్టిశ్రీరాములు నెల్లూరు 5

పర్యావరణ పరిరక్షణ మన బాధ్యత: పోర్టు సీఈఓ జి.జె.రావు

ముఖ్యమంత్రి, మేజర్ మూర్తి: పర్యావరణ పరిరక్షణ పై మన మందరం బాధ్యత కలిగి ఉండాల్సి అవసరం ఎంతైనా ఉందని అదాని కృష్ణపట్నం పోర్టు సీఈఓ జి.జె.రావు పేర్కొన్నారు. సోమవారం 50వ ప్రసంగ పర్యావరణ దినోత్సవ సందర్భంగా కృష్ణపట్నం పోర్టులో ఏర్పాటు చేసిన మొక్కలు నాటి కార్యక్రమానికి అయిన ముఖ్య అతిథిగా పాల్గొని ప్రసంగించారు. ఈ సందర్భంగా అయిన మాట్లాడుతూ పర్యావరణ పరిరక్షణ బాధ్యత ప్రతి ఒక్కరిపై ఉందని అందుకు తగిన విధంగా ప్రతి ఒక్కరూ పర్యావరణాన్ని కాపాడుకోవాల్సి అవశ్యకం ఎంతైనా ఉందన్నారు. పర్యావరణ పరిరక్షణ కోసం తీసుకోవాల్సిన జాగ్రత్తలను అయిన వివరించారు. అందుకు తగిన విధంగా మొక్కలు నాటడం తోపాటు నాటి పరిరక్షణ బాధ్యతలను చేపట్టాల్సి అవసరం ఎంతైనా ఉందన్నారు అలాగే ప్రతి ఒక్కరూ మన తమ తమ ఇద్దర్లో



మొక్కలను విరిగి పుంజుతుంటే అయిన కోరారు, అలాగే ప్లాస్టిక్ ఇతర వ్యర్థాల పనియోగం తగ్గించుకోవాల్సి అవసరం ఎంతైనా ఉందన్నారు అందుకు అనుగుణంగా అదాని కృష్ణపట్నం పోర్టు తగు చర్యలు చేపడుతుందని అయిన తెలిపారు. బాని తరాలకు మంచి వాతావరణం అందించాలంటే పర్యావరణ పరిరక్షణ చేపట్టాల



నాడు, అందులో భాగంగా మొక్కలు నాటడం నాటి పరిరక్షణ బాధ్యతలను పోర్టు చేపట్టడం జరుగుతుందన్నారు. పర్యావరణం తో పాటు అలోగ్గర్ల ద్రవం, ముఖ్యమంత్రి ఈ సందర్భంగా అయిన తెలిపారు అనంతరం పోర్టు అవసరం మొక్కలు నాటడం జరిగింది. అలాగే ప్రతి ఒక్కరూ పర్యావరణ పరిరక్షణ కోసం కృషి చేస్తామని ఉద్యోగులు కార్యకులు ప్రతిజ్ఞ తీశారు. పాల్యూషన్ కంట్రోల్ బోర్డు అధ్యక్షులు నెల్లూరు లో ఏర్పాటు చేసిన పర్యావరణ పరిరక్షణ ర్యాపిడ్ అదాని కృష్ణపట్నం పోర్టు

ఉద్యోగులు కార్యకులు పాల్గొన్నారు. అలాగే అదాని పోనెషన్ అధ్యక్షులు కృష్ణపట్నం గ్రామం లోని మొక్కలు నాటి కార్యక్రమం చేపట్టారు. గోపాలపురం లోని అదాని పరల్వ్ మ్యూల్డ్ ప్రిన్సిపాల్ సత్యవారాయణ మొక్కలు నాటారు. ఈ కార్యక్రమంలో ఏ ఓ ఓ సంఘం కోత, అప్పీస్ హెచ్ గణేష్ శర్మ, వేణుగోపాల్ రెడ్డి, మళ్ల విజయ్, సెక్యూరిటీ హెడ్ వెంకటేష్ బాస్కర్, మనీష్ దావ్, రామకృష్ణ, శ్రీకాంత్, గంగా సతీష్, వివిధ విభాగాల హెచ్ ఓ ఓ లు ఉద్యోగులు కార్యకులు పాల్గొన్నారు.

ఆంధ్రవేణు

**అదాని కృష్ణపట్నం పోర్టులో..
కాలుష్య నివారణకు ప్రాధాన్యత**

• సీఈఓ జి.జె.రావు

ముఖ్యమంత్రి, అన్ 5 (డ్రాఫ్ట్ మ్యాన్): అదాని కృష్ణపట్నం పోర్టు నందు, మళ్ల పక్కం సమీప గ్రామాల్లో కాలుష్యం విస్తారం కలిగి ఉన్న పరిస్థితిని తీసుకురా ప్రాధాన్యత కలిగి ఉన్న పోర్టు సీఈఓ జి.జె.రావు అన్నారు. సోమవారం 50వ ప్రసంగ పర్యావరణ దినోత్సవం సందర్భంగా కృష్ణపట్నం పోర్టు పూజాగం నందు మొక్కలు నాటి కార్యక్రమాన్ని యోజనావల్లం విద్యహారంగా అయిన ముఖ్య అతిథిగా పాల్గొని ఈ కార్యక్రమాన్ని ప్రారంభించారు. ఈ కార్యక్రమాన్ని ఉద్దేశించి అయిన మాట్లాడారు. కాలుష్యం నియంత్రిత పాతాశక బాధ్యతగా అందరూ గుర్తుంచాలన్నారు. ప్లాస్టిక్, ఇతర వ్యర్థాల పనియోగం రాజావరణ తగ్గవు సీఈఓ పేర్కొన్నారు. కెన్సా కేంద్రంలో పాల్యూషన్ కంట్రోల్ బోర్డు అధ్యక్షులులో ఏర్పాటు చేసిన పర్యావరణ పరిరక్షణ ర్యాపిడ్ అదాని కృష్ణపట్నం పోర్టు ఉద్యోగులు కార్యకులు పేర్ల ఎత్తున పాల్గొన్నారు సీఈఓ తెలిపారు. అదాని పోనెషన్ అధ్యక్షులు కృష్ణపట్నం గ్రామంలో మొక్కలు నాటి కార్యక్రమం చేపట్టారు. గోపాలపురంలోని అదాని పరల్వ్ మ్యూల్డ్ ప్రిన్సిపాల్ సత్యవారాయణ మొక్కలు



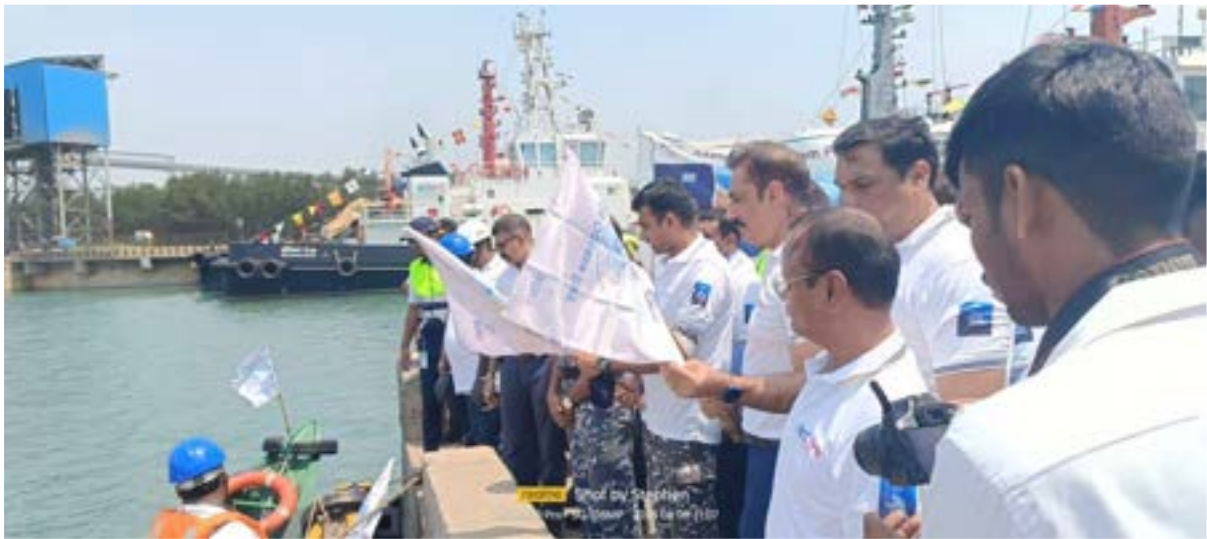
పర్యావరణాన్ని కాపాడుతామంటూ ప్రతిజ్ఞ చేస్తున్న ఉద్యోగులు

నాడారు. ఈ కార్యక్రమంలో సీబీఓ సంఘం కోత, అప్పీస్ హెచ్ గణేష్ శర్మ, వేణుగోపాల్ రెడ్డి, మళ్ల విజయ్, సెక్యూరిటీ హెడ్ వెంకటేష్ బాస్కర్, మనీష్ దావ్, రామకృష్ణ శ్రీకాంత్, గంగా సతీష్, వివిధ విభాగాల హెచ్ఓఓలు, ఉద్యోగులు, కార్యకులు పాల్గొన్నారు.

Date: 06/06/2023, Edition: 09:30 Edition, Page: 12
Source: www.surya.com

5.2 World Ocean Day – 8th June 2023.

- On the occasion of World Oceans Day 2023, Adani Krishnapatnam Port has organized an Ocean cleanup program.
- Five fiber boats were flagged with adequate manpower, along with full safety measures and the required equipment, to clean up the ocean within the port limits.
- In a mass gathering event in the evening session, employees made a pledge to avoid plastic products. In addition, awareness sessions were conducted by the Environment Cell.





5.3 World Ozone Day 16th September 2023 at Adani Krishnapatnam Port

- On the occasion of World Ozone Day AKPL took a commitment pledge for ozone protection.
- 500 saplings planted at Dr. APJ Abdul Kalam Garden & other locations in port premises



5.4 Promotion of Environment sustainability activities:

On the occasion of Ganesh Chaturthi, distributed Clay Ganesh Idols among AKPL Employees & associates to promote environment sustainability:





5.5 Community Development Programmes:

Health Awareness Camps

AKPL has conducted Health Awareness Camps which includes:

- Blood donation camps
- Eye checkup camps
- Malaria controlling program
- Health hazard prevention measures
- Programs for employee health awareness
- Water Purification- Reverse Osmosis Process

Total Health – Adani Foundation in collaboration with Apollo Foundation Total Health invoked Total Health Programme in all 8 CSR Community villages in Muthukuru, SPSR Nellore District and Chillakuru, Tirupati District. Technical assistance is provided by Apollo Foundation Total Health.



Village Sanitation Program:

Adani Foundation is supporting Sanitation Program in all 8 community villages to enable to provide safe health environment to the community families. Foundation is carrying out Village Sanitation with 136 community workers to keep these community villages free from poor sanitation and keep these areas clean and neat. Totally 17960 community families are benefitted by means of this program and maintaining good health.



5.6 Safety Mock Drill / Emergency Exercise

- Organizing periodical mock drills to draw the attention of the employees and to create the awareness of safety issues.
- Organizing periodical fire & safety trainings as a part of preparedness to face the challenges.
- Conducting workshops/seminars by top management involving all the employees & stakeholders to create the awareness of safety issues and preventive measures.



Awareness on Safety Mock Drill





Fire Safety Mock Drills

5.7 Vigilance & Taskforce:

AKPL is operating an Integrated Security Control Room (ISCR) for close observation of all incoming & outgoing trucks phase wise viz., Loading, weighing of loaded trucks, tarpaulin coverage, washing of trucks at tyre washing facility, final weighing, and entrance & exit gate of the port.

- AKPL is following a strict vigilance on the fitness of the trucks at entrance gate only before allowing the truck for loading of cargo and rejecting trucks which are not possessing the statutory records/permits and meeting the fitness standards.
- AKPL ensures that valid vehicle fitness certificates and pollution certificates in front of the vehicle is displayed. It will be made compulsories for all vehicles to display the stickers and the same will be monitored regularly.
- AKPL constituted a dedicated taskforce team comprising with Safety, Security & Environment Departments to verify the dusty cargo vehicle movement & to monitor proper covering of Truck / Wagons with tarpaulin, spillage of materials and overloaded trucks etc. During the verification, if any violation observed, fine will be imposed.

5.8 CSR Activities

- 500 houses built with roads and green belt zones
- 27 schools run in 4 Mandals
- Skill Building & Development Centers
- Hostel facilities | Old age homes | Places of worship
- Hospitals | Medical camps
- RO Plants set up for 24/7 Drinking Water facility
- Training Academies with university affiliated programs and certifications
- Women Empowerment Programs
- All-inclusive residential International School for the marginalised providing world class education.

5.9 Awards & appreciations

AKPL stands in first place in infrastructure sector. It received CII-SR Award for best EHS practice. AKPL received 4-star rating for EHS management from Confederation of Indian Industry (CII). AKPL has been awarded as **“Winner of Greentech India International Award”** for EHS bestpractices during the year 2023.





*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

CHAPTER - 6

6. Compliance Status

Sl. No.	Compliance Status	Page No.
1.	Compliance on the conditions stipulated in EC & CRZ Clearance vide MoEF & EC Order No.10-22/2005-IA-III dated 26.07.2006. (For Phase – 1)	89 to 99
2.	Compliance on the conditions stipulated in EC & CRZ Clearance vide (For Phase – 2) Order No.11-62/2009-IA-III dated 13.11.2009.	100 to 111
3.	Compliance on the conditions stipulated in APCZMA – NOC vide letter no.202/CRZ/IND/2019-30 dated 21.05.2020	112 to 119
4.	Compliance on the conditions stipulated in EC & CRZ Clearance (For Phase – 3) Vide Order No.10-08/2016-IA-III dated 11.01.2021.	120 to 140
5.	Compliance on the conditions stipulated in APPCB CTE order vide No. 633/APPCB/CFE/RO-NLR/HO/2010/390 dated 25.02.2021 for phase III	141 to 154
6.	Compliance on the conditions stipulated in Schedule – A, B & C of APPCB CTO & HWA Combined Order No. APPCB/VJA/NLR/11344/CFO/HO/2019 11/11/2022, valid up to 31.08.2027.	155 to 169

6.1 Compliance on the conditions stipulated in EC & CRZ Clearance vide MoEF & EC Order No.10-22/2005-IA-III dated 26.07.2006. (For Phase – 1)

S. No	Conditions	Compliance status
(A) Specific Conditions		
1.	All the conditions stipulated by Andhra Pradesh State Pollution Control Board in their letter Order No. APPCB/VJA/NLR/633/ HO/ 2004/ 9/467, dated 25.05.2004 should be strictly implemented.	This condition is being complied. Condition wise compliance reports are being submitted to APPCB on monthly basis. Copy attached as Annexure - 1.
2.	Detailed plan for protection of the 9 acres of the mangroves should be provided.	Complied.
3.	The fisherman and salt pan workers should be rehabilitated as per the Rules of Government of Andhra Pradesh.	Complied. Resettlement and Rehabilitation (R&R) of fishing villages was carried out by Government of Andhra Pradesh (GoAP) as per government norms.
4.	Adequate shore protection measures, including construction of revetments/rip-raps, should be taken up based on the scientific studies. The action plan for implementing the shore protection measures should be submitted to this Ministry within 6 months from the date of receipt of this letter.	Complied. <ul style="list-style-type: none"> Hydro dynamic studies were conducted by M/s. HR Wallingford, UK. Shoreline monitoring & Marine biodiversity studies are being carried out regularly for shore protection. M/s. Indian National Centre for Ocean Information Services (INCOIS), Hyderabad is monitoring using satellite imagery AS per the INCOIS Report for the period October 2008 to January 2010, the coastline is found to be stable. Long-time Shoreline stability study was conducted by NIOT, Chennai in 2017-18, 2019. As per the NIOT Report, the coastline is found to be stable and “cause negligible impacts on the environment”.
5.	Green belt area should be developed along the project and budget earmarked.	Being Complied. <ul style="list-style-type: none"> Development of Greenbelt is a regular process in AKPL As of now, greenbelt developed in an extent of 194.5 Ha

S. No	Conditions	Compliance status
		<ul style="list-style-type: none"> Developed block plantation along with along port boundary, 100 m width costal plantation, plantation roads and, around coal yards and avenue, median plantations all along the internal road networks. stackyards.
6.	For rail and road connectivity of the project, separate application should be submitted to this Ministry.	Complied.
7.	The Bay is reported to be calm for most of the days of the year. Even on the day of the visit, having a deep depression in South-West Bay of Bengal, the basin was calm, though the Bay experienced high waves. Hence, dredging operation in the estuary should not have any adverse impact on the existing mangroves blocks.	Being complied. <ul style="list-style-type: none"> Dredging was carried out in phased manner without disturbing the existing mangroves blocks. Mangrove mapping study was carried by NIOT, Chennai in the year 2017-18,2019 and reported that no adverse impact observed on the existing mangroves. Studies were also conducted by NCSCM during May 2022 & 2023 and reported that this condition is complied.
8.	During the rough weather, resulting in high flood tides, dredging operation in the estuary should be stopped.	Being Complied. <ul style="list-style-type: none"> No dredging activity is planned during high flood & during rough weather conditions.
9.	Regarding the location of stock yard in the salt pan area to be acquired, the proponent should not take up any developmental works in the mangrove area and should ensure that no destruction of mangroves takes place.	Noted the condition and being complied.

10.	A disaster management plan covering emergency evacuation mechanism etc., to deal with natural disaster events should be prepared and furnished to the Ministry.	Complied. The last update was on March 2023 and submitted to RO, MoEF&CC along with six monthly compliance report. Copy attached as Annexure - 2
11.	The company must take up and earmark adequate funds for the socio-economic development and for welfare	Being complied.

	measures in the area including drinking water supply, vocational training, and fishery	
12.	The fishing activities by the fishermen living in the settlement along the creek should not be hindered and a mechanism may be evolved for the movement of fishing boats vis-a-vis shipping activities.	Being Complied. Mechanism for movement of fishing boats vis-à-vis shipping was evolved keeping in mind the safety, security, ISPS and customs requirements and is being followed to ensure no hindrance to fishermen.
13.	The Relocation of the fishermen and local communities in the area should be done strictly in accordance with the norms prescribed by the State Government. The relocated communities should be provided with all facilities including health care, education, sanitation and livelihood.	Complied. <ul style="list-style-type: none"> GoAP Rehabilitated the Fishermen and Local Communities. AKPL provided infrastructure facilities under CSR activities at the Rehabilitation Colony in the form of development of Roads, Drains, drinking water supply, supply of cooking gas, housing, educational assistance, student hostels, old age homes, financial aid, imparting vocational trainings, women empowerment and public health, Malaria Control measures, Medical and Health camps.
14.	The company should take up green belt program in the project area including an ecological park and the plan may be submitted to the Ministry within one year.	Being Complied. <ul style="list-style-type: none"> Development of Greenbelt is a regular process in AKPL As of now, greenbelt developed in an extent of 194.5 Ha Developed block plantation along with along port boundary, 100 m width costal plantation, plantation roads and, around coal yards and avenue, median plantations all along the internal road networks. stackyards.
15.	The company may suitably modify the alignment of channel entrance including its width, turning circle, taking into consideration the wave traversal, its intensity etc., to facilitate smoother navigation of ships.	Complied. The channel alignment for well-ordered ship navigation is designed based on navigation simulation studies dated March 2009 by M/s. HR Wallingford, UK.
16.	The breakwater alignment and its design should be further modified based on relevant model studies, borehole data etc., keeping in view the tranquillity condition required for	Complied.
17.	The height of dumping in the dumping	Complied.

	site should be restricted to 30 cm against 90 cm proposed.	Bathymetry of dumping site is being monitored periodically to avoid build up. Last Bathymetry of dumping location carried out on 28.03.2021
18.	The project proponent will not undertake any destruction of mangroves during construction and operation of the project.	Complied.
19.	Sewage arising in the port area should be disposed-off through septic tank – soak pit system or should be treated along with the industrial effluents to conform to the standards stipulated by Andhra Pradesh Pollution Control Board and should be utilized/ re-cycled for gardening, plantation and irrigation.	Complied <ul style="list-style-type: none"> Established and operating 2 No. of Sewage Treatment Plants (STP) 1 X 500 KLD & 1 X 40 KLD for treatment of sewage generated in the port. Treated wastewater from STP is being utilized for the green belt within port premises. Septic tank and soak pit systems are being followed at offices and isolated buildings which are far from STPs.
20.	Adequate plantation should be carried out along the roads of the Port premises and a green belt should be developed.	Being Complied. <ul style="list-style-type: none"> Development of Greenbelt is a regular process in AKPL As of now, greenbelt developed in an extent of 194.5 Ha Developed block plantation along with along port boundary, 100 m width costal plantation, plantation roads and, around coal yards and avenue, median plantations all along the internal road networks. stackyards.
21.	Project proponent should prepare and regularly update the Disaster Management Plan from time to time.	Being Complied. <p>Disaster Management Plan covering emergency evacuation mechanisms to deal with natural disaster events is in place and it is regularly being updated time to time. The last update was on March 2023. Copy attached as Annexure - 2</p>
22.	Fire Fighting arrangements are examined to the new proposal.	This condition is complied <ul style="list-style-type: none"> Port has developed dedicated fire-fighting system with required equipment and trained professionals. Developed Fire contingency plan and implementing the same. Port Tugs are also having firefighting equipment
23.	There should be no withdrawal of	Complied

	ground water in CRZ area, for this project. The proponent should ensure that as a result of the proposed constructions, ingress of saline water into ground water does not take place. Piezometers should be installed for regular monitoring for this purpose at appropriate locations on the project site.	<ul style="list-style-type: none"> • There is no withdrawal of ground water. • AKPL is meeting water requirement from Nakkala kalava & DSS Tankers. • Piezometer (Automatic water level monitoring system including temperature monitoring) has been installed at port and regular monitoring being carried out with NABL Accredited Laboratory. • Reports for the last six months from April 2023 to September 2023 are attached as Annexure - 3
24.	The project should not be commissioned till the requisite water supply and electricity to the project are provided by the PWD/Electricity Department.	Complied
25.	Specific arrangements for rainwater harvesting should be made in the project design and the rainwater so harvested should be optimally utilized. Details in this regard should be furnished to this Ministry's Regional Office at Bangalore within 3 months.	Complied. 12 no. of Rainwater harvesting ponds developed at various locations in Port premises.
26.	The facilities to be constructed in the CRZ area as part of this project should be strictly in conformity with the provisions of the CRZ Notification, 1991 as amended subsequently.	Being Complied. Only permissible activities as per the CRZ Notification were planned in the CRZ area.
27.	Green buffer zone should be provided all around the project area in consultation with local forest department and the report submitted to this Ministry's Regional Office at Bangalore.	Being Complied. <ul style="list-style-type: none"> • Development of Greenbelt is a regular process in AKPL • As of now, greenbelt developed in an extent of 194.5 Ha • Developed block plantation along with along port boundary, 100 m width costal plantation, plantation roads and, around coal yards and avenue, median plantations all along the internal road networks. stackyards. • Developed along port boundary, around coal yards, avenue & median plantations in consultation with local forest department
28.	No product other than those	Being complied.

	permissible in the Coastal Regulation Zone Notification, 1991 should be stored in the Coastal Regulation Zone area.	Only permissible activities as per the CRZ Notification were planned in the CRZ area.												
(B) General Conditions														
i.	Construction of the proposed structures should be undertaken meticulously conforming to the existing Central/local rules and regulations including Coastal Regulation Zone Notification 1991 & its amendments. All the construction designs / drawings relating to the proposed construction activities must have approvals of the concerned State Government Departments / Agencies	Complied All construction designs / drawings related to construction activity are approved by State government of A.P & regulations including Coastal Regulation Zone Notification 1991 & its amendments thereafter.												
i.	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc., should be ensured for construction workers during the construction phase of the project so as to avoid felling of trees/mangroves and pollution of water and the surroundings.	Complied The construction of Phase-I development was completed on 01.09.2009 and commercial operations started on 20.03.2009.												
i.	The project authorities must take necessary arrangements for disposal of solid wastes and for the treatment of effluents by providing a proper waste water treatment plant outside the CRZ area. The quality of treated effluents, solid wastes and noise level etc., must conform to the standards laid down by the competent authorities including the Central / State Pollution Control Board and the Union Ministry of Environment and Forests under the Environment (Protection) Act, 1986, whichever are more stringent.	<p>Being Complied.</p> <ul style="list-style-type: none"> Solid wastes are being collected, segregated and disposed as below: <table border="1"> <thead> <tr> <th>S. No</th> <th>Material</th> <th>Method of Disposal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Biodegradable waste</td> <td>Canteen waste: Composting & used as manure/sand to pig-farms</td> </tr> <tr> <td>2</td> <td>Non-Biodegradable waste</td> <td>Disposal to appropriate recyclers</td> </tr> <tr> <td>3</td> <td>Used Oils/Used Batteries</td> <td>Batteries are procured on buy back basis and Used oil is being disposed to approved vendors of APPCB</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Constructed & operating 2 No. of STPs (1 X 500 KLD & 1 X 40 KLD) outside the CRZ area. Appointed an NABL accredited agency to carry-out Terrestrial & Marine Monitoring and STP inlet & outlet sample analysis. 	S. No	Material	Method of Disposal	1	Biodegradable waste	Canteen waste: Composting & used as manure/sand to pig-farms	2	Non-Biodegradable waste	Disposal to appropriate recyclers	3	Used Oils/Used Batteries	Batteries are procured on buy back basis and Used oil is being disposed to approved vendors of APPCB
S. No	Material	Method of Disposal												
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2	Non-Biodegradable waste	Disposal to appropriate recyclers												
3	Used Oils/Used Batteries	Batteries are procured on buy back basis and Used oil is being disposed to approved vendors of APPCB												

		<ul style="list-style-type: none"> Submitting the report to SPCB on monthly basis & on Half-yearly basis to MoEF & CC. The reports for the period from April 2023 to September 2023 are attached as Annexure – 4 Treated effluent sample conformed to APPCB norms and is recycled for Green Belt development.
v.	The proponents should provide for a regular monitoring mechanism so as to ensure that the treated effluents conform to the prescribed standards. The records of analysis reports must be properly maintained and made available for inspection to the concerned State / Central officials during their visits.	<p>Complied</p> <ul style="list-style-type: none"> Constructed & operating 2 No. of STPs (1 X 500 KLD & 1 X 40 KLD) outside the CRZ area. Appointed an NABL accredited agency to carry-out Terrestrial & Marine Monitoring and STP inlet & outlet sample analysis. Submitting the report to SPCB on monthly basis & on Half-yearly basis to MoEF & CC. Records are being maintained and made available for statutory inspection during their visits.
v.	In order to carry out the environmental monitoring during the operational phase of the project, the project authorities should provide an environmental laboratory well equipped with standard equipment and facilities and qualified manpower to carry out the testing of various environmental parameters.	<p>Being complied</p> <p>AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to September 2023 are attached as Annexure - 5</p>
i.	The sand dunes and mangroves, if any, on the site should not be disturbed in any way.	Being complied.
i.	A copy of the clearance letter will be marked to the concerned Panchayat/local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal.	<p>Complied.</p> <p>Copies of Environmental Clearance letters were submitted to Sarpanch, Krishnapatnam Grama Panchayat, Nellore and to the President, Nellore District Mechanized Fishing Boat Operators Association on 10.08.2006.</p>

i.	The Andhra Pradesh Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildar's Office for 30 days.	Complied. The copies of Environmental Clearance were displayed by APPCB.
k.	The funds earmarked for environment protection measures should be maintained, in a separate account and there should be no diversion of these funds for any other purpose. A year-wise expenditure on environmental safeguards should be reported to this Ministry's Regional Office at Bangalore and the State Pollution Control Board.	Complied The Funds & Expenditure earmarked for environment protection measures are being reported in Form – V Environmental Statement and submitting the same to APPCB & MoEF& CC. Latest submission is on 30.09.2023 for the period 2022-2023. Copy Attached as Annexure - 6
k.	Full support should be extended to the officers of this Ministry's Regional Office at Bangalore and the officers of the Central and State Pollution Control Boards by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	Being Complied
i.	In case of deviation or alteration in the project including the implementing agency, a fresh reference should be made to this Ministry for modification in the clearance conditions or imposition of new ones for ensuring environmental protection.	Noted the condition.
i.	The Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Noted the condition.
i.	The Ministry or any other competent authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which should be complied with.	Noted the condition.

v.	<p>The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfor.nic.in.The advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.</p>	<p>Complied.</p> <p>Advertisement was published in Local Newspaper Andhra Jyothi dated 11.08.2006.</p> <p>A copy of the advertisement was submitted to the Regional Office, Bangalore of MoEF vide Letter No.KP/MOEF/346 dated 23.08.2007.</p>
v.	<p>The project proponents should inform the Regional Office at Bangalore as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of Land Development Work.</p>	<p>Complied.</p> <p>Financial Closure was completed on 16.10.2006.</p> <p>Details were furnished to the MoEF&CC, Regional Office, Bangalore, vide our letter no. KP/MOEF/60 dated 16th Feb, 2007.</p> <p>Approval of the Project by GoAP: 17.09.2004 Start of Land Development June, 2006.</p>
i.	<p>The above mentioned stipulations will be enforced among others under the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (protection) Act, 1986, the Hazardous Chemicals (Manufacture, Storage and Import) Rules, 1989, the Coastal Regulation Zone Notification, 1991 and its subsequent amendments and the Public Liability Insurance Act, 1991 and the Rules made there under from time to time. The project proponents should also ensure that the proposal complies with the provisions of the approved Coastal Zone Management Plan of</p>	<p>Noted the Condition.</p>

Andhra Pradesh State and the Supreme Court's order dated 18 th April, 1996 in the Writ Petition No.664 of 1993 to the extent the same are applicable to this proposal.	
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**6.2 Compliance on the conditions stipulated in EC & CRZ Clearance vide (For Phase – 2)
Order No.11-62/2009-IA-III dated 13.11.2009.**

S. No	Conditions	Compliance
Specific Conditions		
1.	All the conditions as stipulated by the Forests & Environment Department, Govt. of Andhra Pradesh vide letter No.2286/CZMA/2009; dated 11.05.2009 shall be strictly complied.	Being complied.
2.	All the details / information submitted by the project proponent vide letter No.KP/MOEF/PH-II/174, dated 17.08.2009 shall be strictly complied. The details are as follows: i. Southern Boundary of proposed dredge disposal area of Phase-II shall be moved towards North to coincide with Northern Boundary of Phase-I dredge disposal area. ii. Impact of bridges & conveyor across creeks to be re-examined to avoid impact on mangroves. iii. To engage INCOIS or other reputed organization to monitor coastal behavior for a longer period. iv. Runoff from Coal Stock piles shall be collected in dump ponds and recycled for dust suppression and fire protection.	Complied. i. Southern Boundary of proposed dredge disposal area of Phase-II has been moved towards North to coincide with Northern Boundary of Phase-I dredge disposal area. ii. Belt Conveyors and Road Bridge crossings have no impact on Mangroves. Railway Bridge Location is reworked to avoid disturbance to mangroves. iii. M/s. Indian National Centre for Ocean Information Services (INCOIS) was engaged for coastal monitoring. As per their Report for 2008-10, the port development has not impacted the coast. Runoff from coal storage yards is routed through peripheral drains, collection pits and guard (Dump) ponds with facility to recycle the water for dust suppression. iv. NIOT, Chennai also conducted studies in the year 2017-18,2019 and reported that no adverse impact. v. Long time Shoreline stability study conducted by NIOT, Chennai in the year 2017-18 and same continuing in year 2022-23, reported that the coastline is found to be stable
3.	The hydro-dynamic studies shall be undertaken to ascertain the impact to the shoreline in the stretch and ecologically	Complied. a. Hydro dynamic studies were conducted by M/s. HR Wallingford,

S. No	Conditions	Compliance
	sensitive areas and the report shall be submitted to the Ministry.	<p>UK.</p> <p>b. Shoreline monitoring & Marine biodiversity studies are being carried out regularly for shore protection.</p> <p>c. M/s. Indian National Centre for Ocean Information Services (INCOIS), Hyderabad is monitoring using satellite imagery.</p> <p>d. As per the INCOIS Report for the period October 2008 to January 2010, the coastline is found to be stable.</p> <p>e. Long-time Shoreline stability study was conducted by NIOT, Chennai in 2017-18, 2019.</p> <p>f. As per the NIOT Report, the coastline is found to be stable and “cause negligible impacts on the environment”.</p>
4.	Ministry has taken a decision that the plantation of mangroves shall be undertaken on an area of 50 ha. as the Phase-II of the project spreads over 800 ha.	<p>Complied.</p> <p>Mangrove’s development in 50 Ha. has been undertaken within the port.</p>
5.	Six monthly monitoring shall be carried out and a comparative analysis shall be made to examine for any mitigative measures required.	<p>Being complied.</p> <p>Submitting the 6 Monthly Self Certified & NABL Accredited 3rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB.</p> <p>Copies of the acknowledgments are attached as Annexure - 7</p>
6.	The temperature, salinity and tidal inflow shall be monitored weekly.	<p>Being complied.</p> <p>AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to</p>

S. No	Conditions	Compliance
		September 2023 are attached as Annexure – 6
7.	The greenbelt of 100 m. width shall be developed around the coal stack yard as per the request in the public hearing.	Being Complied AKPL submitted a letter to MoEF&CC vide letter No.: KP/MOEF/113 dated 29.08.2012 to modify this condition and developed 100 m width Green belt along the port boundary, coastal area and 20 m wide green belt around coal stack yards instead of 100 m width greenbelt development around the coal yards as requested during public hearing. Copy of the letter is attached as Annexure – 8.
8.	Impact on the drawl of the water from the Kandaleru Creek shall be regularly monitored and report submitted to the Ministry.	Being complied AKPL is not withdrawing water from Kandaleru Creek, but complying with the condition, the quality of water is being monitored and the reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis. The reports for the period from April 2023 to September 2023 are attached as Annexure – 6
9.	Continuous monitoring on disposal of dredged material shall be put in place for both pre and post monsoon periods.	Being complied Bathymetry of the disposal area of dredged material i.e., the dumping grounds is being monitored periodically for both pre and post monsoon periods.
10.	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Being complied.
11.	Oil spills if any shall be properly collected and disposed as per the Rules.	Being complied <ul style="list-style-type: none"> Oil Spills are being managed as per the approved Oil Spill Contingency Plan. AKPL have procured Oil Boom, Skimmer and chemicals to contain any oil spill in case of any accidental spills occurs. Staff

S. No	Conditions	Compliance
		<p>is trained to cater to Tier-I Oil spills.</p> <ul style="list-style-type: none"> As per Disaster Management Plan, Indian Coast Guard will be alerted to Coordinate. Details were furnished to the MoEF&CC Regional Office, Bangalore, vide our letter no. KP/MoEF/PH-II/20 dated 02.02.2010 Latest OPR drill was conducted at the port on 11.09.2023. <p>Copy attached as Annexure - 9</p>
12.	The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.	<p>Complied.</p> <p>The approach channel is marked with lighted buoys for safe navigation.</p> <p>Adequate traffic control guidelines were framed, and copy was submitted to the Fisheries Department to suitably inform fishermen.</p>
13.	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	<p>Complied.</p> <p>A separate Environmental Management cell was established headed by Vice President & supporting staff for effective implementation of the stipulated environmental safeguard.</p>
14.	No destruction of mangrove is permitted. The project proponent shall take up mangrove plantation / green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	<p>Complied.</p> <p>Developed mangroves afforestation of 50 Ha within the Port area suggested by GoAP.</p>
15.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	<p>Complied.</p> <p>An amount of Rs.4.19 Crores was spent for Environment Management for the FY 2023-24 (till Oct 23).</p>
16.	There shall be no withdrawal of groundwater in Coastal Regulation Zone area, for this project. In case any groundwater is proposed to be withdrawn from outside the CRZ area, specific prior permission from the concerned State /	<p>Complied.</p> <p>No groundwater is being drawn at CRZ area.</p>

S. No	Conditions	Compliance
	Central Groundwater Board shall be obtained in this regard.	
17.	The Hazardous waste generated shall be properly collected and handled as per the provisions of Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008.	Being complied. Hazardous waste like used oils / grease and batteries are being collected and handled as per the provisions of Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2016 and their amendments.
18.	The wastewater generated from the activity shall be collected, treated and reused properly.	Complied. Established & operating 2 No. of Sewage Treatment Plants (STP) 1 X 500 KLD & 1 X 40 KLD for treatment of sewage generated in the port. Treated wastewater is being reused for the green belt within port premises.
19.	Sewage Treatment facility should be provided in accordance with the CRZ Notification.	Complied.
20.	No solid waste will be disposed of in the Coastal Regulation Zone area. The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.	Being complied. Solid wastes are being collected, Segregated and disposed as per the Solid Waste (Management and Handling) Rules, 2016 and their amendment.
21.	Installation and operation of DG set if any shall comply with the guidelines of CPCB.	Being complied.
22.	There shall be no reclamation / dredging of areas.	This condition was deleted by MoEF & CC vide letter no. F. No. 11-62/2009-IA.III dated 02.03.2010. Copy attached as Annexure - 10
23.	Air quality including the VOC shall be monitored regularly as per the guidelines of CPCB reported.	<ul style="list-style-type: none"> Air quality monitoring is regularly being carried out at 7 locations through an NABL Accredited Agency. Results of monitoring comply with the norms. Periodical Monitoring Reports are being submitted to APPCB on Monthly basis along with Compliance reports. The reports for the period from April 2023 to September 2023 are attached as Annexure – 6 The condition pertaining to VOC monitoring was deleted by MoEF&CC vide letter F. No. 11-62/2009- IA.III dated

S. No	Conditions	Compliance
		02.03.2010. Copy attached as Annexure - 10
24.	The project proponent shall undertake green belt development.	Complied. Greenbelt has been developed progressively in the port i.e., 100 m wide greenbelt along periphery and 20 m around coal and iron ore stackyards, total greenbelt developed by end of Phase- I &II is 191.5 Ha.
25.	Necessary clearances from all the concerned agencies shall be obtained before initiating the project.	Being complied.
26.	Project proponent shall install necessary oil spill mitigation measures in the shipyard. The details of the facilities provided shall be informed to this Ministry within 3 months from the date of receipt of this letter.	Being complied <ul style="list-style-type: none"> a. Oil Spills are being managed as per the approved Oil Spill Contingency Plan. b. AKPL have procured Oil Boom, Skimmer and chemicals to contain any oil spill in case of any accidental spills occurs. Staff is trained to cater to Tier-I Oil spills. c. As per Disaster Management Plan, Indian Coast Guard will be alerted to Coordinate. d. Details were furnished to the MoEF&CC Regional Office, Bangalore, vide our letter no. KP/MoEF/PH-II/20 dated 02.02.2010. e. Latest OPR drill was conducted at the port on 11.09.2023. Copy attached as Annexure - 9
27.	No hazardous chemicals shall be stored in the Coastal Regulation Zone area.	Being complied. No hazardous chemicals are being stored in CRZ area.
28.	The project shall not be commissioned till the requisite water supply and electricity to the project are provided by the PWD / Electricity Department.	Complied. Electrical power is being provided by APTRANSCO
29.	Specific arrangements for rainwater harvesting shall be made in the project design and the rainwater so harvested shall be optimally utilized.	Being complied. Rainwater harvesting pits are developed near buildings. For the general area, rainwater harvesting ponds are also developed at suitable locations.

S. No	Conditions	Compliance
30.	The facilities to be constructed in the CRZ area as part of this project shall be strictly in conformity with the provisions of the CRZ Notification, 1991 and its amendment. The facilities such as office building and residential buildings which do not require waterfront and foreshore facilities shall not be constructed within the Coastal Regulation Zone area.	Being complied. All the construction activities are as per regulations including Coastal Regulation Zone Notification 1991 & its amendments.
General Conditions		
i.	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment	Complied.
ii.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Being complied.
iii.	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following:	
	a. No excavation or dumping on private property is carried out without written consent of the owner.	No excavation or dumping on private property was carried out.
	b. No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations.	Complied.
	c. Excavation work shall be done in close consultation with the Soil Conservation and Watershed Development Agencies working in the area, and	Complied.
	d. Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach into the groundwater.	Complied.
iv.	The construction material shall be	Complied.

S. No	Conditions	Compliance
	obtained only from approved quarries. In case new quarries are to be opened, specific approvals from the competent authority shall be obtained in this regard.	
v.	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	Complied.
vi.	Full support shall be extended to the officers of this Ministry / Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation and other environmental protection activities.	Being Complied
vii.	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if in the interest of environment and the same shall be complied with.	Noted the condition.
iii.	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted the condition.
ix.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Noted the condition.
x.	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Complied. Financial Closure was completed on 16.10.2006. Details were furnished to the MoEF&CC, Regional Office, Bangalore, vide our letter no. KP/MOEF/60 dated 16th Feb, 2007. Approval of the Project by GoAP: 17.09.2004 Start of Land Development June, 2006.
xi.	Andhra Pradesh Pollution Control Board	Complied.

S. No	Conditions	Compliance
	shall display a copy of the Clearance letter at the Regional Office, District Industries Centre and Collector's Office / Tehsildar's Office for 30 days.	APPCB has displayed the copy of Environmental Clearance at Regional Office, District Industries Centre and Collector's Office / Tehsildar's Office.
x.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted the condition.
xi.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc., shall be obtained, as applicable by project proponents from the respective competent authorities.	Complied. Statutory clearances are obtained for storage of Diesel from Chief Controller of Explosives (CCE), Fire Department, Civil Aviation Department, and Forest Conservation Act. Copy of approvals attached as Annexure 11
xii.	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Andhra Pradesh State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	Complied. Advertisement was given in Two Local Newspapers viz., Deccan Chronicle dated 22.11.2009 and Andhra Jyothi dated 22.11.2009. A copy of the advertisement was sent to Regional Office, Bangalore of MoEF vide Letter No.KP/MOEF/PH.II/08 dated 18.01.2009.
xiii.	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Noted the condition.

S. No	Conditions	Compliance
xiv.	Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted the condition.
xv.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions /representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied.
xvi.	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant level namely; SPM, RSPM, SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the Company in the public domain.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure – 7.
xvii.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure 7
xviii.	The environmental statement for each	Being complied.

S. No	Conditions	Compliance
	financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the Company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Form – V Environmental Statement submitted to APPCB & MoEF& CC. Latest submission is on 30.09.2023 for the period 2022-2023. Copy Attached as Annexure – 6
Specific Conditions vide MoEF&CC order F.No. 11-62/2009-IA.III (Pt) dated 16.03.2016		
xix.	Construction activity shall be carried out strictly according to the provision of CRZ notification, 2011. No construction work other than those permitted in coastal Regulation Zone Notification shall be carried out in Coastal regulation Zone area.	Being complied. No construction works other than that permitted in Coastal Regulation Zone Notification is being carried out in CRZ Area.
xx.	All the recommendations and conditions specified by AP Coastal Zone Management Authority (APCZMA) vide letter No.3160/ Env/CZMA/2014, dated 14.08.2014 shall be complied with.	Noted the condition & Being complied.

6.3 Compliance on the conditions stipulated in APCZMA – NOC vide letter no.202/CRZ/IND/2019-30 dated 21.05.2020

Part A- Specific Conditions		
Sl. No.	Condition	Compliance
i.	The project proponent shall comply with all the conditions stipulated in the Environment & CRZ clearances, CFEs, CFOs issued to M/s. KPCL Phase-I and Phase-II projects in this Phase-III project also	Being complied.
ii.	The proposed constructions shall conform to the norms prescribed in CRZ notification issued by the Ministry of Environment and Forests, Government of India as per S. No. 19€, dated 06.01.2011.	Being complied.
iii.	No activity on ground shall be undertaken without obtaining Environmental	Being complied.

	clearance from Ministry of Environment and Forests, Government of India as per S. No. 19(E), dated 06.01.2011.	
iv.	Continuous monitoring of circulation of seawater shall be carried out every six months by engaging reputed agencies like NIOT. The port shall undertake the study of multi sensor, multi date data to study the sedimentation studies in the inner harbour channel in addition to the in-house studies undertaken as part of regular monitoring of sedimentation in the harbour channel. The monthly reports shall be submitted to APPCB.	<p>Being complied.</p> <p>AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to September 2023 are attached as Annexure – 6</p> <p>In addition, NCSCM is Monitoring the Land, Air quality, Noise, Water, Marine, Marine sediment parameters and mangroves, once in four years.</p> <p>Latest NCSCM Monitoring report is attached as Annexure – 12.</p>
v.	Study on marine biodiversity by engaging a reputed organization/ university having a proven expertise in the relevant field shall be taken up. Similar monitoring mechanism shall be developed for monitoring terrestrial part to determine the impacts.	Being Complied
vi.	The Port authorities shall continue to nourish the beaches located on the north side of the North breakwaters within the port limits, which are vulnerable to sea erosion during the monsoon season and also during cyclone.	Being complied
vii.	The Port shall also undertake the scientific studies by engaging reputed agencies like National Institute of Ocean Technology (NIOT) and Indian Institute of Technology, Chennai to study the feasibility of constructing submerged breakwaters to protect the beach road from seasonal erosion and also during cyclones.	<p>Being Complied</p> <p>AKPL appointed NIOT for preparing the feasibility report. The study is under progress.</p>
viii.	The applicant shall ensure that continuous monitoring systems of all likely affected parameters including	<p>Being complied.</p> <p>As per the letter submitted to APCZMA</p>

	air/fish/flora/fauna/water quality/waste water discharges/solid waste disposal/construction material disposal etc., are installed and reports shared with the National Institute of Oceanography (NIO) on continuous basis and a monthly report submitted to the APPCB by the NIO, all through construction period and at least for one year after commencement of operations.	vide letter No. AKPL/APCZMA/ 2022-23/069 dated 09.09.2022. Copy of the letter attached as Annexure - 13 AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters. The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis. The reports for the period from April 2023 to September 2023 are attached as Annexure – 5
ix.	A team of APPCB scientists and environmental engineers shall be kept continuously informed and apprised of the project by the applicant, so that environmental mitigation measures are adopted on a continuous basis.	Being complied.
x.	The project proponent while executing this project shall not disturb any of the ecologically sensitive areas like mangroves, sand heaps sand dunes etc.	Being complied.
xi.	No construction shall be taken in the No Development Zone. However, if any permitted activity is to be taken up, the proponent may apply to the competent authority separately. Permanent structures shall be avoided in this zone.	Being complied.
xii.	Priority to be given to the maintenance of storm water drains from the surrounding area to prevent possible flooding of the surrounding areas.	Being complied.
xiii.	Mechanization of Port operations shall be taken up to improve the air quality in the bowl area. SPM and RSPM levels to be maintained within the standards stipulated by the APPCB/CPCB.	Being complied.
xiv.	Raising and maintenance of greenbelt within and outside the port area to be taken up on priority and necessary assistance shall be extended to the	Being complied.

	local agencies involved in the implementation of afforestation programme.	
xv.	The project proponent shall submit the half yearly compliance reports of CRZ clearance duly audited by the accredited consultants on the degree of compliance by the project proponent during and after construction of the project.	Being complied.
xvi.	Dredged material shall be utilized for nourishment of beaches.	Being complied.
xvii.	Full cooperation shall be extended to all inspecting authorities/ organizations such as APPCB, MoEF&CC, CPCB and local Environment Protection Organizations.	Being complied.
xviii.	A team of APPCB scientists and environmental engineers shall be kept continuously informed and apprised of the project by the applicant, so that environmental mitigation measures are adopted on a continuous basis.	Being complied.
xix.	The project activity shall be carried out strictly as per the provisions of CRZ Notification, 2011, and shall not affect the coastal ecology of the area including flora and fauna.	Being complied.
xx.	The project proponent shall ensure that there is no destruction of mangroves during the construction as well as the operation phase of the project.	Being complied.
xxi.	There shall be no dressing or alteration of the sand dunes and natural features, including landscape changes for beautification, recreation and other such purpose.	Being complied.
xxii.	All conditions/ recommendations stipulated by other statutory authorities shall strictly be complied with, as may be applicable.	Noted the condition.
xxiii.	The project proponent shall obtain all necessary clearances/ permissions from the concerned authorities as applicable.	Being complied.
xxiv.	'Consent for Establishment' and CFO as may be applicable, shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act,	Complied Obtained CTE for Phase-III expansion vide Order no. 633/ APPCB/CFE/RO-

	1981 and the Water (Prevention and Control of Pollution) Act, 1974.	NLR/HO/2010 dated 25.02.2021. Copy of the CTE Order is attached as Annexure – 20
xxv.	All waste (liquid and solid) arising from the proposed development will be disposed of as per the norms prescribed by State Pollution Control Board. There shall not be any disposal of untreated effluent into the sea/coastal water bodies.	Being complied.
xxvi.	No permanent labour camp, machinery and material storage shall be allowed in CRZ area.	Being complied.
xxvii.	There shall no groundwater withdrawal within CRZ without prior approval of the State Groundwater Authority.	Being complied.
xxviii.	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Being complied.

Part B - General Conditions

i.	A copy of the clearance letter shall also be displayed on the website of the AP Pollution Control Board. The clearance letter shall also be displayed at the AP Pollution Control Board Regional Office, District Industries centre and District Collector office/ Mandal Revenue Office for 30 days.	Complied. A copy of the Environmental clearance was submitted to the Environmental Engineer, APPCB Regional office vide letter dated 12.01.2021, the District Collector vide our letter dated 03.02.2021 and local panchayats vide letter dated 01.02.2021. Copy attached as Annexure - 14
ii.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Andhra Pradesh Coastal Zone Management Authority (APCZMA) and AP Pollution control Board Regional office.	Being Complied
iii.	Concealing factual data by the project proponent, any officer behalf of the project proponent and consultants hired by the project proponent or submission of false/fabricated data and failure to comply	Noted the condition.

	with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	
iv.	The above stipulations would be enforced among others 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, the Public Liability (insurance) Act, 1991, the EIA Notification, 2006 and the CRZ Notification, 2011.	Noted the condition.
v.	Full co-operation shall be extended to the officials from the APCZMA, APPCB and Regional office of MoEF&CC, during monitoring of implementation of environmental safeguards stipulated. It shall be ensured that documents/data sought pertinent is made available to the monitoring team. A complete set of all the documents submitted to APCZMA shall be forwarded to the AP Pollution Control Board Regional office.	Noted the condition.

vi.	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the APCZMA.	Noted the condition.
vii.	The APCZMA reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted the condition.
viii.	All other statutory clearances shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted the condition.
ix.	The project proponent should advertise in	Complied

	at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ clearance and copies of clearance letters are available with the AP Pollution Control Board and may also be seen on the website of APCZMA. The advertisement should be made within seven days from the date of receipt of the clearance letter and a copy of the same should be forwarded to the AP Pollution Control Board Regional office.	Advertisement was published in District Newspapers namely “Vartha” & “The New Indian Express” dated 23.01.2021. Copy attached as Annexure - 15
x.	This clearance is subject to any order passed by any Hon’ble Courts, as may be applicable to this project.	Noted the condition.
xi.	A copy of the clearance letter shall be sent by the proponent to concern panchayat, Zilla Parisad/Municipal corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied. A copy of the Environmental clearance was submitted at APPCB on 12.01.2021, the District Collector on 03.02.2021 and local panchayats on 01.02.2021. The Environment & CRZ clearance letter is displayed in the Port website. Copy attached as Annexure - 16
xii.	The proponent shall upload the status of compliance of the stipulated conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the AP Pollution Control Board Regional office and, the concerned District Collector and the APPCB.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure – 5.
xiii.	The environmental statement for each financial year ending 31st March in Form- V as is mandated to be submitted by the project proponent to the Andhra Pradesh Pollution Control Board as prescribed under the Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of clearance conditions and shall also be sent to the AP	Complied Form – V Environmental Statement submitted on 30.09.2023 for the period 2022-2023. Copy Attached as Annexure – 6



*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

	Pollution Control Board regional office, APCZMA and APPCB by email.	
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6.4 Compliance on the conditions stipulated in EC & CRZ Clearance (For Phase – 3) Vide Order No.10-08/2016-IA-III dated 11.01.2021.

S.No	Conditions	Compliance
	Special Conditions	
i.	The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. It does not amount to approvals/consent/ permissions etc., required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals / clearances under any other Acts/ Regulations or Statutes as applicable to the project.	Noted the condition.
ii.	The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP report, submissions made during Public Hearing and also that have been made during their presentation to EAC.	Being complied
iii.	Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Being complied
iv.	All the recommendations and conditions specified by the Andhra Pradesh Coastal Zone Management Authority (APCZMA) vide letter 202/CRZ/IND/201930 dated 21.05.2020 shall be complied with.	Noted the condition & Being complied.
v.	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained. Creek water monitoring program shall be implemented during the construction phase	Being complied
vi.	Development of green belt by native species with consultation with state forest department shall be ensured.	Being complied. <ul style="list-style-type: none"> As on 31st March 2023, AKPL has successfully developed 194.5 hectares

		<p>of greenbelt within its premises since the port's inception.</p> <ul style="list-style-type: none"> • The development of the greenbelt has been carried out in phases I and II, resulting in a total area of 191.5 hectares that has been developed and maintained within the port premises. In line with the expansion plans for phase III of Krishnapatnam Port, an additional 3 hectares of greenbelt has been established, contributing to the proposed 120 hectares of greenbelt for this phase in addition to the existing 191.5 Ha. • AKPL is maintaining greenbelt of 100 m width along the periphery, except lighthouse area (north port) and towards AP Genco conveyor (north port). • Developed 3.5 Ha of greenbelt was developed near liquid jetty area in phase III along the shoreline boundary. • Maintaining 20-meter width greenbelt around the coal stack yards and the gap filling work is in progress
vii.	<p>The proposed expansion entails 60 million cum of dredging in soft soil. As proposed, the PP shall utilize 26 million cu m of dredged sand for reclamation of low lying areas of port, stock pile 2 million cu m on the coast north of north breakwater for long term coastal protection as recommended by NIOT and disposal of balance 32 million cu m of dredged spoil in the identified dredge disposal area of 56 Km2 beyond (-) 20 m contour. The impact of dredging on the marine environment should be monitored and necessary measures shall be taken on priority basis if any adverse impact is observed. NIOT will oversee the work as scientific body and continue to monitor its impact/benefits for at least 5 years post project completion. Necessary financial assistance</p>	<ul style="list-style-type: none"> • AKPL has obtained Consent to Establishment (CTE) from APPCB vide Order No. 633/APPCB/CFE/RO-NLR/HO/2010 dated 25.02.2021. <p>Copy of the CTE Order is attached as Annexure – 17</p> <ul style="list-style-type: none"> • The impact of dredging activities will be monitored by NIOT for 5 years post completion of the project.

	to be provided by project proponent to NIOT. The report of the same to be submitted to regional office of MoEFCC by project proponent.	
viii.	Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, Crustaceans, Fishes, coral reefs and mangroves etc. as given in the EIA-EMP Report shall be complied with in letter and spirit with the help of reputed organization or individuals of national repute having knowledge in the said subject. Necessary financial assistance to be provided by project proponent.	<p>Being complied.</p> <p>AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to September 2023 are attached as Annexure – 5</p> <p>In addition, NCSCM is Monitoring the Land, Air quality, Noise, Water, Marine, Marine sediment parameters and mangroves, once in four years.</p> <p>Latest NCSCM Monitoring report is attached as Annexure – 12.</p>
ix.	Continuous online monitoring of air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance reports to the regional office of MoEF&CC.	<p>Complied.</p> <p>Established & Operating 3 Nos. Continuous Ambient Air quality monitoring stations and connected to APPCB website.</p> <p>In addition, AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to September 2023 are attached as Annexure – 6</p>
x.	The actions shall be in accordance with proposed landscape planning concepts to minimize major landscape changes. The change in land use pattern shall be limited to the proposed port limits and be carried out in such a way as to ensure proper drainage by providing surface drainage	Being complied

	systems including storm water network.	
xi.	Suitable preventive measures be taken to trap spillage of fuel / engine oil and lubricants from the construction site. Measures should be taken to contain, control and recover the accidental spills of fuel during cargo handling.	Being complied Port has existing Tier-I oil spill response equipment to combat any oil spill and coordinate with Indian Coast Guard to contain, control, and recover the accidental spills of fuel during cargo handling.
xii.	All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF & CC along with half yearly compliance report.	Complied Environmental Monitoring Plan prepared in matrix format for the Phase-III expansion and will be implemented at site
xiii.	The company shall draw up and implement Corporate Social Responsibility Plan as per the Company's Act of 2013.	Being complied
xiv.	As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.	Being complied <ul style="list-style-type: none"> Public hearing for Phase-III expansion was waived as it is being developed in the existing land area of 6800 Ac. All the commitments made in the public hearing for Phase-II during 2009 are being complied. All the activities proposed in the Environment Management Plan for Phase-III along with the existing EMP including Pollution control measures, Environmental protection and conservation, R&R, Wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation, if any., as prescribed shall be implemented.
i.	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction	Being complied

	works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	
ii.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.	Complied. AKPL has obtained license from Chief Controller of Explosives to store petroleum class A & B as a retail outlet inside the Port Copy of the Licence is attached as Annexure - 11
Air Quality Monitoring and Preservation		
i.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and Nox in reference to SO2 and Nox emissions) within and outside the project area at least at four locations covering upwind and downwind directions.	Being complied. <ul style="list-style-type: none"> • Environmental Monitoring is being carried out by NABL accredited laboratory. • Ambient Air Quality for the entire Port area and outside the port area at 7 locations is being monitored covering upwind and downwind directions. • The Port has established & operating 3 No. of Continuous Ambient Air Quality Monitoring stations at the below mentioned locations as suggested by APCB within the Port premises to monitor the parameters viz., PM₁₀, PM_{2.5}, SO₂, NO, NO₂, CO and the data is being uploaded to APPCB website. <ul style="list-style-type: none"> a. CVR Amenities Complex b. Thamminapatnam Village c. Krishnapatnam Village The monthly averages for the period from April 2023 to September 2023 are attached as Annexure - 5
ii.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.	Being complied. Port has adopted & implementing the following measures for the control of fugitive emissions during handling of bulk & non-bulk cargo and vehicular movement:

		<ul style="list-style-type: none"> i. Established mechanical conveyor system for handling coal & Iron ore to prevent the spillage of cargo and provided closed hoods for the conveyor system to curb fugitive emissions of coal/iron ore particles into the air. ii. Stacker cum re-claimers are being used for loading and unloading the coal. The railway wagons are being loaded mechanically. iii. Fully mechanized coal handling system with gantry grab type ship loaders/unloaders of required capacity were installed. iv. Provided hooded conveyor belt for cargo transferring directly from ship to the designated stack yard by means of closed hoppers and transfer towers. v. Established closed warehouses for storage of weather sensitive cargoes vi. The loading and discharge points of the conveyor carrying material is covered with exhaust hoods to prevent the formation of dust clouds. vii. All the conveyor galleries are covered to ensure zero dust emission during cargo transfer. viii. Provided water sprinkling system at transfer towers to arrest the dust spreading into the atmosphere. ix. Provided semi mechanized facilities for truck tarpaulin covering stations. to facilitate and ensuring all the outgoing cargos by trucks are covered with tarpaulin. x. Mist Canon systems provided for watering avenue plantations and road wetting on haul roads xi. Operating Mechanical dust suppression system comprises of 248 canons supported by electrical motors to cover water fog all over cargo stacks and other areas.
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		<p>xii. Water is sprayed from various points by water cannons at pressure of about 2-6kg/cm² to form a mist over the cargo stacks and other places and the mist attracts the dust to settle it down without spreading along the wind.</p> <p>xiii. Deploying DSS Tankers of Cannon mounted for sprinkling water on haul roads and yards to arrest the dust causing by the vehicular movement</p> <p>xiv. The Cargo stocks/heaps are covered with tarpaulin.</p> <p>xv. The facility provided 8 No. tractor mounted hydraulic broom sweeping machines for cleaning the roads and jetty areas,</p> <p>xvi. Erected & maintaining wind breaking wall of height 14 mtrs to prevent any dust nuisance towards habitation supported with high density greenbelt.</p> <p>xvii. Greenbelt: 194.5 Ha Developed & maintaining green belt along the port covering, yards, roads and all operational areas.</p>
iii.	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.	<p>Being complied.</p> <p>Erected & maintaining wind breaking wall of height 14 mtrs to prevent any dust nuisance towards habitation supported with high density greenbelt.</p> <p>Covered the operational area with rows of plantation which are acting as wind barricades.</p> <p>Ensuring water sprinkling on haul roads .</p>
iv.	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.	<p>Being complied.</p> <p>No blasting activities involved in the Port operations.</p>
v.	The Vessels shall comply the emission norms prescribed from time to time.	Being complied.
vi.	Diesel power generating sets proposed as	Being Complied.

	source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low Sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.	<p>i. The Port is being supplied with Power Grid & Non-conventional source of energy through Power Grid for uninterrupted power supply. (BLYTH Wind Park Pvt. Ltd., Ananthapur Dist., Andhra Pradesh)</p> <p>ii. The DG Sets are being operated as back up for emergency lighting & safety during power breakdowns.</p> <p>iii. The port is monitoring the Flue gas emissions of DG Sets through an NABL Accredited 3rd Party and submitting the analysis reports the concerned departments. Latest Analysis reports dated 19.09.2023 are attached as Annexure - 18</p>
vii.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.	<p>Complied</p> <p>AKPL appointed M/s. FP Project Management to study and prepare a Traffic Management and Decongestion Plan.</p> <p>The study was completed and received the final report.</p> <p>Copy of the Report is attached as Annexure - 19</p>
Water quality monitoring and preservation:		
i.	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.	<p>Being complied</p> <p>No creeks or rivers are blocked in the port premises and ensuring free flow of water.</p>
ii.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt	Being complied

	curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.	
iii.	No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary / channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.	Being complied No ships are allowed to discharge on board wastewater.
iv.	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.	Being complied. Port has existing Tier-I oil spill response equipment to combat any oil spill supported by Indian Coast Guard to contain, control and recover the oil spill.
v.	The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.	Being a Port activity, this condition is Not Applicable and there is no intake and discharge of waters involved in the Port operations.
vi.	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.	Being complied <ul style="list-style-type: none"> Port is equipped with Tier-I, oil spill response equipment to combat spillage of oil, supported by Indian Coast Guard. Oil Spills, if any at construction area, shall be managed as per the Oil Spill Contingency Plan. We have Procured Oil Boom, Skimmer and chemicals. Trainings and periodical mock drills are being organized for the work force at workplace. Copy of the latest Mock Drills conducted is attached as Annexure – 9.
vii.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.	Being Complied. The source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava drain Port is not withdrawing 1000 KLD of water from Muthukur Reservoir. Alternatively, purchasing the water from outside the Port through tankers. The average daily water consumption for the last six months i.e., from April 2023 to September, 2023 is 2570 KLD.

		<p>AKPL is submitting the water consumption details in Form – 1 to APPCB on monthly basis and Half-yearly basis to MoEF & CC.</p> <p>Copy of Form – 1 for the period from April to September 2023 are attached as Annexure – 3.</p>																															
viii.	<p>Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.</p>	<p>AKPL has established & operating 2 no. of Sewage Treatment Plants as detailed below:</p> <ol style="list-style-type: none"> 500 KLD STP at CVR Amenities Complex 40 KLD STP Admin. Building. <p>Treated wastewater from STP is being utilized for the green belt within port premises.</p> <p>Septic tank and soak pit systems are being followed at offices and isolated buildings which are far from STPs.</p> <p>The treated water details for the last six months are as below:</p> <table border="1" data-bbox="895 1133 1414 1469"> <thead> <tr> <th rowspan="2">Month</th> <th colspan="3">Treated water generated</th> </tr> <tr> <th>500 KLD STP</th> <th>40 KLD STP</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>April 2023</td> <td>300.33</td> <td>9.27</td> <td>310.20</td> </tr> <tr> <td>May 2023</td> <td>193.70</td> <td>12.73</td> <td>206.43</td> </tr> <tr> <td>June 2023</td> <td>169.63</td> <td>10.63</td> <td>180.26</td> </tr> <tr> <td>July 2023</td> <td>182.00</td> <td>6.47</td> <td>188.47</td> </tr> <tr> <td>August 2023</td> <td>184.60</td> <td>12.20</td> <td>196.80</td> </tr> <tr> <td>September 2023</td> <td>193.70</td> <td>6.83</td> <td>200.53</td> </tr> </tbody> </table>	Month	Treated water generated			500 KLD STP	40 KLD STP	Total	April 2023	300.33	9.27	310.20	May 2023	193.70	12.73	206.43	June 2023	169.63	10.63	180.26	July 2023	182.00	6.47	188.47	August 2023	184.60	12.20	196.80	September 2023	193.70	6.83	200.53
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ix.	<p>A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/ drainage systems along with the final disposal point should be obtained.</p>	<p>AKPL is not discharging any treated effluent/ untreated effluent into the public sewer.</p> <p>The treated domestic water is being utilized for greenbelt development and dust suppression.</p>																															
x.	<p>No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.</p>	<p>Being complied</p>																															
xi.	<p>All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to</p>	<p>Being complied</p>																															

	avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.	
Noise Monitoring and prevention		
i.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	<p>Being complied</p> <p>AKPL appointed an NABL Accredited Laboratory to monitor Noise quality at the following locations:</p> <ol style="list-style-type: none"> 1. Zero Point 2. Thamminapatnam 3. CVR Building 4. Gopalapuram 5. Chalivendram 6. Krishnapatnam 7. Krishnapatnam Village near Light House <p>Submitting the reports to APPCB on monthly basis and to MoEF & CC on Half yearly basis.</p> <p>The reports for the period from April to September 2023 are attached as Annexure - 5</p>
ii.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipment.	Being complied
iii.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	Being complied
iv.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.	Being complied.
Energy Conservation measures		
i.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights parking around	Being complied

	project area and maintain the same regularly	
ii.	Provide LED lights in their offices and port areas.	Being complied All the office buildings and other operation buildings are provided with LED lights,
Waste Management		
i.	Dredged material shall be disposed safely in the designated areas.	Being complied.
ii.	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.	Being complied AKPL appointed NIOT for shoreline monitoring vide (SO no 5702007591). Field survey work was carried out in two schedules in 2023. Another two field surveys are will be complied by March 2024.
iii.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.	Being complied
iv.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.	Being complied.
v.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	Being complied.
vi.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.	Being complied
vii.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.	Being complied
viii.	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a	Being complied Port has existing Oil Spill Contingency Plan in place for the existing and proposed

	spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co- ordination of Coast should be covered.	project. Port has Tier-I Oil Spill response equipment for recovery of oil spill in coordination with ICG, Krishnapatnam and follows the guidelines given in MARPOL and Shipping Acts.
Greenbelt		
i.	Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines.	Being complied
ii.	Top soil shall be separately stored and used in the development of green belt.	Being complied. AKPL is using coco peat, red soil and vermi compost for enriching the top soil.
Marine Ecology		
i.	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	Being complied
ii.	While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.	Being complied
iii.	A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub- tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.	Being complied AKPL appointed Sugandhi Devadason Marine Research Institute for preparing detailed Biodiversity management plan. Final study report is yet to be received.
iv.	Marine ecology shall be monitored regularly also in terms of sea weeds, sea	Being complied

	grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.	AKPL Appointed an NABL Accredited Laboratory for Monitoring the Terrestrial & Marine parameters viz., Marine water quality, Marine sediment quality, Surface Water Quality and ground water quality at regular intervals with NABL Laboratory. Copies of the Analysis reports for the Period from April to September 2023 are attached as Annexure – 5
v.	The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.	Being complied. There are no aquatic wildlife sanctuaries in the vicinity of the Port. It is ensured that the water traffic does not impact the marine ecosystem for port operations.
Public hearing and human health issues		
i.	The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.	Being complied.
ii.	Workers shall be strictly enforced to wear personal protective equipment's like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.	Being complied. Adani Krishnapatnam Port strictly enforcing all the workers, employees, stakeholders to wear PPEs at operational areas.
iii.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.	Being complied. All the employees, workers & contractors are given daily toolbox talks, monthly review meetings with employees engaged in various activities of the Port. Port implemented and monitoring all standard safety and occupational hazard measures to prevent untoward incidents.
iv.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Being complied. Port has developed Emergency Preparedness Plan and Disaster Management Plan for the existing facilities.

		For Phase-III, Emergency Preparedness Plan and DMP will be prepared and implemented as per the proposed facilities.
v.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Being complied.
vi.	Occupational health surveillance of the workers shall be done on a regular basis.	Being complied
Environmental Responsibility		
i.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Being complied. The Project Proponent is implementing all the statutory regulations / directions prescribed and submitting the compliance reports periodically to the concerned monitoring department's viz., MoEF&CC, CPCP & SPCB.
ii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	Being complied. Adani Krishnapatnam Port has formed Environment Cell Headed by Vice President & supporting staff at port level.
iii.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection	Being complied The Funds & Expenditure earmarked for environment protection measures are being reported in Form – V Environmental Statement and

	measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	submitting the same to APPCB & MoEF& CC. Latest submission is on 30.09.2023 for the period 2022-2023. Copy Attached as Annexure - 6
iv.	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure – 13.
Miscellaneous		
i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied. Advertisement was published in District Newspapers namely "Vartha" in local language & "The New Indian Express" in English language dated 21.01.2021.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied. A copy of the Environmental clearance is submitted to the District Collector vide our letter dated 03.02.2021 and local panchayats vide letter dated 01.02.2021.
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB.

		Copies of the Acknowledgements are attached as Annexure – 7
iv.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the acknowledgements are attached as Annexure – 7.
v.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Being complied Form – V Environmental Statement submitted to APPCB & MoEF& CC. Latest submission is on 30.09.2023 for the period 2022-2023. Copy Attached as Annexure - 6
vi.	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complied.
vii.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Noted the condition & will be complied with. AKPL obtained CTE of APPCB for Order No. 633/APPCB/CFE/RO- NLR/HO/2010 dated 25.02.2021. The project is yet to be implemented.
viii.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted the condition.
ix.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Being Complied.
x.	No further expansion or modifications in	Noted the condition.

	the port area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	
xi.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted the condition.
xii.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted the condition.
xiii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted the condition.
xiv.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/ monitoring reports.	Noted the condition.
xv.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Noted the condition.

6.5 Compliance on the conditions stipulated in APPCB CTE order vide No. 633/APPCB/CFE/RO-NLR/HO/2010/390 dated 25.02.2021 for phase III

S.No	Conditions	Compliance																				
1.	The proponent shall obtain Consents for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the activity.	Complied. Obtained CTO from APPCB vide Order No. APPCB/ VJA/ NLR/11344/CFO/HO/2019 11/11/2022, valid up to 31.08.2027																				
2.	Compensation is to be paid for any environmental damage caused by it, as fixed by the Collector and District Magistrate as civil liability.	Noted the condition.																				
3.	The rules and regulations notified by Ministry of Law and Justice, GOI, regarding the Public Liability Insurance Act, 1991 shall be followed.	Noted the condition.																				
4.	<p>Water: The source of water is Muthukur Reservoir of 1000 KLD and 4 MLD of water from Nakkala kalava irrigation drain. The maximum permitted water consumption after proposed expansion is as following:</p> <table border="1"> <thead> <tr> <th>S. No</th> <th>Purpose</th> <th>Qty as per CFO (Phase I & II) (KLD)</th> <th>Proposed in Expansion under Phase III (KLD)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Dust Suppression & Other Utilities</td> <td>1600</td> <td>1700</td> </tr> <tr> <td>2</td> <td>Gardening</td> <td>300</td> <td>200</td> </tr> <tr> <td>3</td> <td>Domestic</td> <td>600</td> <td>600</td> </tr> <tr> <td colspan="2">Total</td> <td>2500</td> <td>2500</td> </tr> </tbody> </table> <p>Separate meters with necessary pipeline shall be provided for assessing the quantity of water used for each of the purposes viz., Dust suppression, Domestic purposes, Washing and servicing, development of greenery.</p>	S. No	Purpose	Qty as per CFO (Phase I & II) (KLD)	Proposed in Expansion under Phase III (KLD)	1	Dust Suppression & Other Utilities	1600	1700	2	Gardening	300	200	3	Domestic	600	600	Total		2500	2500	<p>Being Complied.</p> <p>The source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava drain</p> <p>Port is not withdrawing 1000 KLD of water from Muthukur Reservoir. Alternatively, purchasing the water from outside the Port through tankers.</p> <p>The average daily water consumption for the last six months i.e., from April 2023 to September, 2023 is 2570 KLD.</p> <p>AKPL is submitting the water consumption details in Form – 1 to APPCB on monthly basis and Half-yearly basis to MoEF & CC.</p>
S. No	Purpose	Qty as per CFO (Phase I & II) (KLD)	Proposed in Expansion under Phase III (KLD)																			
1	Dust Suppression & Other Utilities	1600	1700																			
2	Gardening	300	200																			
3	Domestic	600	600																			
Total		2500	2500																			

5.	Wastewater Generation					
	S.N	Purpose	Qty as per	Proposed	in	Total after

o		CFO(Phase I & II) (KLD)	Expansion under Phase III (KLD)	Expansion (KLD)
1	Other Utilities	-	240	240
2	Domestic	300	450	750
	Total	300	690	990

Treatment & Disposal (As per EC order)

Source of Effluent	Treatment	Mode of Final Disposal
Domestic	Sewage Treatment Plant of capacity of 700 KLD consisting of Sewage collection Sump, Fluidized Bed Bio Reactor, Secondary clarifier, Clarifier Water Tank, Dual Media Filter, treated water tank, Sludge drying beds etc.	Treated domestic effluents shall be utilized for Green belt development and dust suppression
Utilities	Effluent Treatment Plant of 300 KLD capacity consisting of Neutralization tank, Equalization tank, Oil Grease trap, flash mixing tank, clariflocculator, aeration tank, secondary clarifier, holding tank, pressure sand filter, activated carbon filter, sludge drying beds etc. for treating effluents	Treated effluent shall be reused for green belt and for dust suppression

Compliance:

At present AKPL has established & operating 2 no. of Sewage Treatment Plants as detailed below:

- 500 KLD STP at CVR Amenities Complex
- 40 KLD STP Admin. Building.

Treated wastewater from STP is being utilized for the green belt within port premises.

Septic tank and soak pit systems are being followed at offices and isolated buildings which are far from STPs.

Additional capacities shall be provided as per requirement.

The treated water details for the last six months are as below:

Month	Treated water generated		
	500 KLD STP	40 KLD STP	Total
April 2023	300.33	9.27	310.20

		May 2023	193.70	12.73	206.43														
		June 2023	169.63	10.63	180.26														
		July 2023	182.00	6.47	188.47														
		August 2023	184.60	12.20	196.80														
		September 2023	193.70	6.83	200.53														
6.	The effluent / sewage shall be treated to the on land for irrigation standards, as stipulated under Schedule VI of Environment (Protection) Rules, 1986, notified by Ministry of Environment and Forests, Government of India vide G.S.R.422 (E), dt.19.05.1993 and its amendments thereof. The treated wastewater shall be used for development of greenery, dust suppression, re-used for various purposes within the premises.	Complied.																	
7.	<p>Air: The Air pollution Control equipment shall be installed along with the commissioning of the activity and shall comply with the following for controlling air pollution:</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Details of Stack</th> <th>Stack 01</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Attached to</td> <td>DG Sets</td> </tr> <tr> <td>2.</td> <td>Capacity of D.G. set</td> <td>5 x 2000 KVA, 1 x 1000 KVA, 2 x 750 KVA, 5x 500 KVA, 3 x 320 KVA, 3 x 250 KVA, 3 x 160 KVA, 10 x 125 KVA, 10 x 82.5 KVA, 3 x 380 KVA</td> </tr> <tr> <td></td> <td>Fuel</td> <td>Diesel</td> </tr> <tr> <td>3.</td> <td>Stack height above the ground</td> <td>This condition has been amended vide CFE order No: 633/APPCB/CFE/RONLR/HO/2010 dated 06.04.2021 The Port shall provide stack heights for the DG sets based on the following formula. $H=h+0.2\sqrt{KVA}$ Where H= Total height of the stack in meters, h= Height of the building in meters</td> </tr> <tr> <td>4.</td> <td>Details of air pollution control equipment</td> <td>Acoustic enclosures with silencers</td> </tr> </tbody> </table>	S.No	Details of Stack	Stack 01	1.	Attached to	DG Sets	2.	Capacity of D.G. set	5 x 2000 KVA, 1 x 1000 KVA, 2 x 750 KVA, 5x 500 KVA, 3 x 320 KVA, 3 x 250 KVA, 3 x 160 KVA, 10 x 125 KVA, 10 x 82.5 KVA, 3 x 380 KVA		Fuel	Diesel	3.	Stack height above the ground	This condition has been amended vide CFE order No: 633/APPCB/CFE/RONLR/HO/2010 dated 06.04.2021 The Port shall provide stack heights for the DG sets based on the following formula. $H=h+0.2\sqrt{KVA}$ Where H= Total height of the stack in meters, h= Height of the building in meters	4.	Details of air pollution control equipment	Acoustic enclosures with silencers
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<p>Compliance:</p> <ul style="list-style-type: none"> i. The Port is being supplied with Power Grid & Non-conventional source of energy through Power Grid for uninterrupted power supply. (BLYTH Wind Park Pvt. Ltd., Ananthapur Dist., Andhra Pradesh) ii. The DG Sets are being operated as back up for emergency lighting & safety during power breakdowns. iii. The port is sampling of Flue gas emissions of DG Sets through an NABL Accredited 3rd Party and submitting the analysis reports the concerned departments. Latest Analysis reports dated 19.09.2023
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8.	<p>The proponent shall comply with the following for controlling fugitive emissions:</p> <ul style="list-style-type: none"> • Vehicle movement shall be minimized / eliminated by implementing mechanical operation. • All the vehicles involved in transportation of cargo shall be covered with tarpaulin. • Vehicles shall be managed to avoid traffic congestion and shall provide empty dusting vehicle washings / dry cleaning system to clean all out going cargo vehicles. • Based on traffic density/vehicular movements anticipated from the port, parking facilities shall be provided. 	<p>Complied.</p> <p>AKPL is implementing the following to control fugitive emissions.</p> <ol style="list-style-type: none"> i. Provided mechanized ship loaders & unloaders and conveyer systems ii. Provided Water sprinkler system in ship unloaders and conveyer system for dust suppression. iii. Provided GI sheet covering for all transfer towers and Conveyor. iv. Provided MDSS with 248 Nos sprinklers at yards v. Deployed 12 Nos. of Truck mounted sprinklers for roads and transit areas & stock piles. vi. Provided 8 No. tractor mounted hydraulic broom sweeping machines for cleaning the roads and jetty areas. vii. All the loaded trucks and wagons are ensured to be covered with tarpaulins. viii. Provided wheel washing facility at the entrance of the dusty cargo storage area.
9.	<p>All the transfer points, loading / unloading points and conveyer systems shall be housed completely with leak proof arrangements.</p> <p>Adequate dust suppression and containment measures shall be implemented for effective control of fugitive emissions.</p>	<p>Complied.</p> <p>AKPL is implementing the following to control fugitive emissions.</p> <ol style="list-style-type: none"> i. Provided mechanized ship loaders & unloaders and conveyer systems ii. Provided Water sprinkler system in ship unloaders and conveyer system for dust suppression. iii. Provided GI sheet covering for all transfer towers and Conveyor. iv. Provided MDSS with 248 Nos sprinklers at yards v. Deployed 12 Nos. of Truck mounted sprinklers for roads and transit areas & stock piles. vi. Provided 8 No. tractor mounted

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10.	<p>Hazardous / Solid Waste details: The Port Authority shall comply with the following w.r.t disposal of solid waste after expansion:</p>																																																								
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	<p>Compliance: All the hazardous waste generated by the Port are collected, stored, and disposed to authorized recyclers/re-processors.</p> <ul style="list-style-type: none"> • E – Waste is being collected and disposed to SPCB authorized E-waste recyclers and submitting the details in Form – 3 to SPCB regularly. The latest submission is on 30.06.2023 for the Year 2022-2023. Copy Attached as Annexure - 20 • Hazardous waste (Waste oil) – AKPL is quantifying the waste oil and disposing to 		
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	SPCB authorized Waste oil recyclers through APEMCL portal and submitting the details in Form – 4 to SPCB regularly. The latest submission is on 30.06.2023 for the Year 2022-2023. Copy attached as Annexure – 21	
11.	The following rules and regulations notified by the MOE&F, GOI shall be implemented.	
	a.	Regulation of Persistent Organic Pollutants Rules, 2018.
	b.	Hazardous waste and other wastes (Management and Transboundary Movement) Rules, 2016.
	c.	Plastic Waste Management Rules, 2016.
	d.	Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
	e.	Fly Ash Notification, 2016.
	f.	Batteries (Management & Handling) Rules, 2010.
	g.	E-Waste (Management) Rules, 2016.
	h.	Construction and Demolition waste Management Rules, 2016.
	i.	Solid Waste Management Rules, 2016.
	j.	The Public Liability Insurance Act, 1991 and its amendments thereof other conditions.
	Compliance – Being Followed as applicable.	
12.	The Port shall comply with the following conditions as committed during the CFE Committee meeting held on 23.02.2021:	
	i.	M/s. KPCL shall implement Mechanized MDDS systems for effective dust control. Water meters and energy meters shall be installed to record the quantity of water consumed and electricity consumed for MDSS systems.
		Complied. AKPL installed and operating Mechanical Dust Suppression System (MDSS) with 248 Nos. of sprinklers at coal stacking and wagon loading areas. Separate Energy meters are installed to record the electricity consumption for MDSS. AKPL will augment the MDSS as per the requirement during Phase-III expansion of Port.
	ii.	M/s. KPCL shall conduct performance evaluation of MDSS systems.
		Noted the condition.
	iii.	M/s. KPCL shall explore the possibility of usage of Chemical suppressants such as Sodium / Potassium Aluminates, for effectively mitigating the dust emissions during coal / dusty cargo handling.
		Noted the condition.
	iv.	M/s. KPCL shall restrict the coal stack
		Being complied.

	height to 10 m only. In future, APPCB will examine the increase in stack height of dusting cargo from 10 m to 12 m depending up on the justification submitted by the port.	
	<p>v. This condition has been amended vide CFE order No: 633/APPCB/CFE/RO- NLR/HO/2010 dated 06.04.2021</p> <p>vi. The Govt. of A.P allotted surface water i.e., 1000 KLD from Muthukur Reservoir and 4MLD of water from Nakkalakalva irrigation waste water drain, which is sufficient to meet the total water requirement for port utilization for Phase-III. Further, Nellore Municipal Corporation commissioned one STP of 5 MLD capacity to treat municipal sewage. STPs of capacity 70 MLD are under construction. The Port shall explore possibility of utilization of treated waste water for dust suppression purpose in the Port area. The KPCL shall not draw the ground water under any circumstances.</p>	<p>Being Complied.</p> <p>The source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava drain</p> <p>Port is not withdrawing 1000 KLD of water from Muthukur Reservoir. Alternatively, purchasing the water from outside the Port through tankers.</p> <p>The average daily water consumption for the last six months i.e., from April 2023 to September, 2023 is 2570 KLD.</p> <p>AKPL is submitting the water consumption details in Form – 1 to APPCB on monthly basis and Half-yearly basis to MoEF & CC.</p> <p>Copy of Form – 1 for the period from April to September 2023 are attached as Annexure – 3.</p>
	vii. M/s. KPCL shall not allow the effluents / leachate generated from dust suppression / coal handling etc., into sea under any circumstances. The garland drains, settling tanks shall be de-silted regularly for free flow.	<p>Being complied.</p> <p>AKPL is not discharging the runoff water from coal storage yards and water from dust suppression to the sea.</p> <p>The runoff water is being diverted to sedimentation pits and the supernatant water is being used for green belt / dust suppression within the Port.</p>
	viii. Greenbelt of width 100 m shall be developed along the boundary of the port as committed in the public hearing (para no. 5 of EC order dt.11.01.2021) and as stipulated in the CFE order dt.08.05.2010. The greenbelt shall be developed in an area not less than 120 Ha along the Port boundary and around the coal	<p>Being complied.</p> <ul style="list-style-type: none"> As on 31st March 2023, AKPL has successfully developed 194.5 hectares of greenbelt within its premises since the port's inception. The development of the greenbelt has been carried out in phases I and II, resulting in a total area of 191.5

	<p>storage areas with native species, as stipulated in EC order dt.11.01.2021. Saline water-resistant saplings shall be planted as Bay-of-Bengal is located in the vicinity.</p>	<p>hectares that has been developed and maintained within the port premises. In line with the expansion plans for phase III of Krishnapatnam Port, an additional 3 hectares of greenbelt has been established, contributing to the proposed 120 hectares of greenbelt for this phase in addition to the existing 191.5 Ha.</p> <ul style="list-style-type: none"> • AKPL is maintaining greenbelt of 100 m width along the periphery, except lighthouse area (north port) and towards AP Genco conveyor (north port). • Developed 3.5 Ha of greenbelt was developed near liquid jetty area in phase III along the shoreline boundary. • Maintaining 20-meter width greenbelt around the coal stack yards and the gap filling work is in progress
	<p>ix. The liquid cargo / chemicals shall be stored in the port area complying with OISD norms. All precautions shall be taken to prevent any chemical accidents. The chemicals stored in the port premises and their capacities shall be informed to the EE, RO: Nellore from time to time.</p>	<p>Noted the condition.</p>
	<p>x. This condition has been amended vide CFE order No: 633/APPCB/CFE/RO- NLR/HO/2010 dated 06.04.2021 The Port shall implement effective dust suppression measures to meet National Ambient Air Quality standards.</p>	<p>Noted and being complied.</p>
	<p>xi. This condition has been amended vide CFE order No: 633/APPCB/CFE/RO- NLR/HO/2010 dated 06.04.2021 The Port shall maintain and operate 3 nos. of CAAQM stations properly,</p>	<p>Complied.</p>

	consistently and transmit the data to the APPCB server, online.	
xii.	The Coal stock yard shall be enclosed suitably to have three layers of green belt of varying height on all the sides.	Being complied.
xiii.	Dusty cargos shall be handled through mechanized handling equipment for loading & unloading operations.	Being complied.
xiv.	Closed conveyor belt with water sprinkling arrangement shall be provided for conveying dusty cargos like coal& iron ore.	Being complied.
xv.	The ship un-loader for unloading and transfer of material shall be provided with in-situ water sprinkling system to avoid dust nuisance.	Noted the condition.
xvi.	Mechanical stackers cum reclaimers for staking transfer and reclamation and conveyors for transfer of materials without manual handling.	Noted the condition.
xvii.	Dry fogging system shall be provided at transfer points.	Being complied.
xviii.	Automatic water sprinkling shall be provided at all dusty cargo stock yards. There shall be interlocking between the CAAQM station values for particulate matter and MDSS.	Being complied. Provided Mechanical dust suppression system Possibility of Installation of automatic water sprinkling system will be explore the during the implementation of Phase – III.
xix.	The facility shall maintain standby centrifugal pump with drive motor for uninterrupted dust suppression of the cargo.	Being complied.
xx.	The coal & iron ore shall be transported by rail from the stacking area as far as possible. The residual cargo if any shall be transported by road through covered trucks duly complying with the following measures:	Being complied. <ul style="list-style-type: none"> Majority of the coal is being transported I to the nearby Power plants through closed conveyors, For the steel plants and cement plants the coal is being transferred through rail with tarpaulin covers,

		<ul style="list-style-type: none"> A small quantity of coal is being transferred through truck covered with tarpaulins.
	a. Traffic congestion shall be avoided.	Being complied.
	b. Automated mechanical water sprinkling shall be provided on roads and at dusty cargo storage areas, for suppression of dust.	Deploying DSS Tankers for dust suppression on the roads.
	c. All the vehicles involved in transportation of cargo during the break downs shall be covered with tarpaulin and also ensure to manage vehicles	Being complied.
	d. The truck movement shall be through a dedicated road meant for truck movement located and avoid movement of trucks closer to residential areas.	Being complied.
	e. The trucks shall be fully covered with tarpaulin while plying with cargo on the roads.	Being complied.
	f. All cargo vehicles moving out from the port shall be passed through vehicle wheel wash area.	Being complied.
	g. The port shall provide oil spill containment facilities around the SBM.	Being complied. Port is equipped with Tier-1 Oil spill response equipment.
	h. The port shall take necessary environmental protection measures for the dump yard of the dredged material.	Being complied.
13.	The industry shall comply with all the conditions stipulated in the EC order dt. 11.01.2021 issued by MoEF&CC, Gol, New Delhi.	Being complied.
14.	Fire detection and firefighting facilities with adequate water storage facility shall be provided in fire prone area in consultation with competent authorities.	Being complied. AKPL has adequate firefighting facilities with water storage facility for the entire Port area.
15.	Onsite & offsite Disaster Management plan shall be prepared to meet any eventuality in case of any accident. Mock drills shall be conducted atleast twice a year and modifications required if any shall be	Being complied. Onsite emergency plan has been prepared and submitted to District Collector for incorporating with Offsite emergency plan of District magistrate.

	incorporated in Disaster Management Plan and shall submit to Board.	
16.	The Port Authorities shall prepare a safety report and carry out an independent safety audit report of the respective industrial activities including chemical storages / isolated storages by an expert not associated with such industrial activity as required under Rule 10 of MSIHC Rules, 1989 and get it approved by the Factories Dept., and submit the compliance along with copy of the safety report, safety audit report and safety certificate at concerned Regional Office, APPCB.	Noted the condition.
17.	The Port Authorities shall submit a copy of the NOC issued by the Andhra Pradesh State Disaster Response and Fire Service Dept., (APSDRFSD) at concerned Regional Office, APPCB.	Noted the condition.
18.	The Port Authorities shall submit risk assessment report covering worst scenario clearly describing impact within the industry premises and outside the industry premises and emergency response system.	Noted the condition.
19.	The Port Authorities shall obtain prior permission from MoEF&CC, Gol and APPCB for any changes in the cargo type / capacity.	Noted the condition.
20.	DO levels in the sea water at the dredging area shall be monitored at regular interval and the dredging time shall be suitably regulated to prevent depletion of DO levels in the sea water.	<p>Being complied.</p> <p>AKPL appointed an NABL Accredited Laboratory to conduct Environmental Monitoring i.e., Terrestrial & Marine parameters.</p> <p>The reports are being submitted to APPCB on monthly basis and MoEF&CC on half-yearly basis.</p> <p>The reports for the period from April 2023 to September 2023 are attached as Annexure – 5</p> <p>In addition, NCSCM is Monitoring the Land, Air quality, Noise, Water, Marine, Marine sediment parameters and mangroves, once in four years.</p>

		Latest NCSCM Monitoring report is attached as Annexure – 12.
21.	The industry shall submit compliance to the conditions stipulated in the EC and CFE orders to the concerned Regional Officer of APPCB every six months and shall upload the same at APPCB website viz., https://pcb.ap.gov.in/UI/Submission_Compliance_of_EC_CFE_CFO_Direction.aspx .	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure – 7
22.	Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order may result in withdrawal of this order and attract action under the provisions of relevant pollution control Acts.	Noted the condition.
23.	Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec. 27(2) of Water (Prevention and Control of Pollution) Act, 1974 and Under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke the order, to review any or all the conditions imposed herein and to make such modifications as deemed fit and stipulate any additional conditions.	Noted the condition.
24.	Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules,1982, to such authority (hereinafter referred to as the Appellate Authority) constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.	Noted the condition.



*Half yearly Compliance status (for the period from April 2023 to September 2023)
on the conditions stipulated in EC, CFE & CFO orders issued to M/s.Adani
Krishnapatnam Port Limited, SPSR District, Andhra Pradesh by MOEF & SPCB*

6.6 Compliance on the conditions stipulated in Schedule – A, B & C of APPCB CTO & HWA Combined Order No. APPCB/VJA/NLR/11344/CFO/HO/2019 11/11/2022, valid up to 31.08.2027.

S No	Condition	Compliance
Schedule - A		
1	Any up-set condition in any industrial plant / activity of the industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.	Noted the condition.
2	The port should carryout analysis of wastewater discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.	Being Complied Marine and terrestrial monitoring are carried out on monthly basis and DG set monitoring is carried out on Six Monthly basis through an NABL Accredited Laboratory.
3	All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.	Noted the condition.
4	Notwithstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.	Noted the condition.
5	The industry shall ensure that there shall not be any change in the process technology, source & composition of raw materials and scope of working without prior approval from the Board.	Noted the condition.
6	The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E (P) Rules, 1986 & amendments thereof.	Complied Environmental Statement in Form – V is being submitted annually. Form-V Environment Statement for the FY 2022-2023 is submitted on 30.09.2023. Copy attached as Annexure - 6
7	The applicant should make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at	Complied Obtained CTO & HWA Combined Order

	least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board.	from APPCB vide order No APPCB/VJA/NLR/ 11344/ CFO/ HO/2019 dated 11.11.2022 is valid up to 31 st August 2027. Copy of the Order attached as Annexure - 22
8	The port should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions. Any change in the management shall be informed to the Board. The person authorized should not let out the premises / lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.	Noted the condition.
9	Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.	Noted the condition.
10	The conditions stipulated are without prejudice to the rights and contentions of this Board in any Hon'ble court of law.	Noted the condition.
11	The port shall be liable to pay Environmental Compensation / Other Environmental Taxes, if any environmental damage caused to the surroundings, as fixed by the Collector & District Magistrate or any other competent authority as per the Rules in vogue.	Noted the condition.
12	The port may explore the possibility of tapping the solar energy for their energy requirements.	Noted the condition & will explore the possibility.
13	The port should educate the workers and nearby public of possible accidents and remedial measures.	Noted the condition.
Schedule - B		
1	The Port shall complete mechanizing of Berth	Complied.

	no 6 by 31 st March, 2023	<ul style="list-style-type: none"> Mechanization of berth no 6 is completed in the month April 2023. Mechanization of berth includes linkages to the APGENCO and SEMBCORP conveyors and Wagon Loading station. Provided covered conveyor system with Dry fog dust suppression system. Provided dry fog dust suppression system at transfer points. 						
2	The port shall complete the mechanization of Berth no 5 within 24 months from the date when the coal handled at berth no 5 is adequate to handle through mechanization system. Till the mechanization is completed, the port shall do sprinkling along with MDSS to control dust pollution due to handling of coal	<p>Being complied.</p> <p>Provided mobile atomizers and water tankers during handling of coal at berth no 5.</p> <p>MDSS will be provided during mechanization of berth no 5.</p>						
3	The Port shall maintain the existing greenbelt of 100m width along the periphery. Further, development of 100 m green belt at other expansion areas shall be taken up at the time of expansion of the port facility and shall be completed within 3 years.	<p>Being complied.</p> <ul style="list-style-type: none"> Maintaining greenbelt of 100 m width along the periphery, except lighthouse area (north port) and towards AP Genco conveyor (north port). Developed 3.5 Ha of greenbelt near liquid jetty area in phase III along the shoreline boundary. 						
4	The port shall develop the 20 m width greenbelt along the existing coal stock yards as per EC & CFO conditions within a time period of 2 years	<p>Complied.</p> <p>Maintaining 20 meter width greenbelt around the coal stack yards except towards east side (Zone 3 & 4).</p>						
5	The port shall maintain storm water drains and improvement of the storm water drains in new areas shall be taken up along with the expansion of the port.	<p>Complied.</p> <p>Provided storm water drains stock yards.</p>						
Water								
6	<p>The source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava irrigation drain. The maximum permitted water consumption after proposed expansion is as following:</p> <table border="1" data-bbox="199 1937 782 2007"> <thead> <tr> <th>S. No.</th> <th>Purpose</th> <th>Quantity (KLD)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S. No.	Purpose	Quantity (KLD)				<p>Being Complied.</p> <p>The source of water is Muthukur Reservoir 1000 KLD and 4 MLD of water from Nakkala kalava drain</p> <p>Port is not withdrawing 1000 KLD of water from Muthukur Reservoir. Alternatively, purchasing the water</p>
S. No.	Purpose	Quantity (KLD)						

	<table border="1"> <tr> <td>1.</td> <td>Dust suppressions & Miscellaneous (Fire protection services)</td> <td>1950.0</td> </tr> <tr> <td>2.</td> <td>Gardening</td> <td>400.0</td> </tr> <tr> <td>3.</td> <td>Domestic</td> <td>650.0</td> </tr> <tr> <td></td> <td>Total</td> <td>3000.0</td> </tr> </table> <p>Separate meters with necessary pipe-line shall be maintained for assessing the quantity of water used for each of the purposes mentioned above.</p>	1.	Dust suppressions & Miscellaneous (Fire protection services)	1950.0	2.	Gardening	400.0	3.	Domestic	650.0		Total	3000.0	<p>from outside the Port through tankers.</p> <p>The average daily water consumption for the last six months i.e., from April 2023 to September, 2023 is 2570 KLD.</p> <p>AKPL is submitting the water consumption details in Form – 1 to APPCB on monthly basis and Half-yearly basis to MoEF & CC.</p> <p>Copy of Form – 1 for the period from April to September 2023 are attached as Annexure – 3.</p>						
1.	Dust suppressions & Miscellaneous (Fire protection services)	1950.0																		
2.	Gardening	400.0																		
3.	Domestic	650.0																		
	Total	3000.0																		
7	<p>The port shall comply the following effluent discharged standards based on the disposal points permitted:</p> <table border="1"> <thead> <tr> <th>Outlet</th> <th>Parameter</th> <th>Concentration</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>pH</td> <td>5.5 - 9.0</td> </tr> <tr> <td>2.</td> <td>Total Suspended Solids (TSS)</td> <td><100 mg/l</td> </tr> <tr> <td>3.</td> <td>Oil and Grease</td> <td>10 mg/l</td> </tr> <tr> <td>4.</td> <td>Biochemical Oxygen Demand (BOD)</td> <td>30 mg/l</td> </tr> <tr> <td>5.</td> <td>Fecal Coliform (FC) (Most Probable Number per 100 Milliliter, MPN/100ml)</td> <td><1000 MPN/100 ml</td> </tr> </tbody> </table>	Outlet	Parameter	Concentration	1.	pH	5.5 - 9.0	2.	Total Suspended Solids (TSS)	<100 mg/l	3.	Oil and Grease	10 mg/l	4.	Biochemical Oxygen Demand (BOD)	30 mg/l	5.	Fecal Coliform (FC) (Most Probable Number per 100 Milliliter, MPN/100ml)	<1000 MPN/100 ml	Being Complied.
Outlet	Parameter	Concentration																		
1.	pH	5.5 - 9.0																		
2.	Total Suspended Solids (TSS)	<100 mg/l																		
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5.	Fecal Coliform (FC) (Most Probable Number per 100 Milliliter, MPN/100ml)	<1000 MPN/100 ml																		
Air																				
8	<p>The port shall comply with emission limits for DG sets of capacity upto 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment Rules, 2004. In case of DG sets of capacity more than 800 KW shall comply with emission limits as per the Notification G.S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.</p>	<p>DG stack Emissions is being monitored by third party regularly and submitting the reports.</p> <p>As per the reports the values are within the standards.</p>																		
9	<p>The port shall comply with ambient air quality standards of PM10 (Particulate Matter size less than 10µm) - 100 µg/ m3; PM2.5 (Particulate Matter size less than 2.5 µm) - 60 µg/ m3; SO2 - 80 µg/ m3; NOx - 80 µg/m3, outside the factory</p>	<p>Provided 3 no. of Continuous Ambient Air Quality Monitoring stations at CVR Amenities Complex, Thamminapatnam Village and Krishnapatnam Village for the parameter PM2.5, PM10, SO2, NOx,</p>																		

	<p>premises at the periphery of the industry. Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009. Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A) Night time (10 PM to 6 AM) - 70 dB (A)</p>	<p>CO and NH3 and linked to APPCB website.</p>
10	<p>The Port shall take all measures including latest available technologies to comply with above ambient air quality standards</p>	<p>The following measures are being adopted for emission control:</p> <ol style="list-style-type: none"> Operating Mechanical Dust Suppression System (MDSS with 248 Nos. of sprinklers) at coal stacking and wagon loading areas. 12 Nos. of Truck mounted sprinklers for roads and transit areas. 8 Nos. of heavy duty Atomized Sprayers provided hoppers for cargo unloading. Mechanized coal handling at 3 berths i.e., berth 6,7,8. Conveyors are designed with covering hood. Operating 2 vacuum machines and 10 mechanical road sweeping mechanic. Outside going coal transport vehicles covering with tarpaulin. Developed wind breaking shield on western side of coal storage yard and zone 6 Developed 191.5 Ha of Green belt along port boundary, around coal yards, avenue& median plantations.
11	<p>The Port shall not increase the capacity beyond the permitted capacity mentioned in this order, without obtaining CFE & CFO of the Board.</p>	<p>Being complied. The cargo handling quantities are within the permitted quantities only.</p>
12	<p>Coal stack heights in all coal yards shall not be more than 12mts.</p>	<p>Being complied.</p>
13	<p>The port shall ensure required wetness all the time on the surface of stockpiles to avoid the dust emissions from the stockpiles.</p>	<p>Being complied.</p>
14	<p>The port shall install a sufficient number of CAAQM stations in between the villages and the</p>	<p>Provided 3 no. of Continuous Ambient Air Quality Monitoring stations at CVR</p>

	port area. The stations shall be located at the periphery of the villages to monitor all the parameters given in the consent order.	Amenities Complex, Thamminapatnam Village and Krishnapatnam Village for the parameter PM2.5, PM10, SO2, NOx, CO and NH3 and linked to APPCB website.
15	The port shall maintain properly the three CAAQM stations provided and shall be connected to APPCB website	Complied.
16	Unloading of iron ore from the railway wagons house should be carried out with wagon tippers only, in case, handling of iron ore is more than 6 MTPA. As and when iron ore handling is to be done intermittently, it should be handled with water sprinkling system at high pressure with swiveling type nozzles operated regularly to cover entire stockpile. Nozzles shall be operated along stockpile at regular Intervals to cover stockpile height and width.	Being complied.
17	The port shall take adequate air pollution control measures with respect to the enhanced dusty materials handling capacities.	Deployed 5 no. of jet water tankers in addition to 10 no. of tankers for control of dust nuisance in the surrounding
18	The port shall stock all the dusty materials with in the designated storage yards only.	Being Complied.
19	The port activities are concentrating in north quay by construction of 12th Berth, hence the stocking of dusty materials shall not be extended towards the residential areas around the port area.	Complied.
20	The dusty materials transporting vehicles shall be closed in all respects/ covered with tarpaulin for controlling fugitive emissions.	Being complied.
21	The port shall provide wheel washing facility near the dusty cargo stocking area, to the freighted vehicles going outside the port.	Complied
22	The port shall inform the modifications made in port infrastructure developments to the MoEF&CC and to the Board time to time.	This condition is noted & will be followed.
23	The port shall obtain EC for any change of scope of the project and shall restrict the port activities as permitted vide EC Orders Dt.26.07.2006 for Phase - I, 13.11.2009 for Phase - II & Phase-III (Expansion) 11.01.2021.	This condition is noted & will be followed.
24	The port shall continuously operate the 3 CAAQM stations installed in between villages and port area to monitor all the parameters	Complied.

	given in the consent order and upload the data continuously to the APPCB / CPCB websites.	
General		
25	The MDSS system shall be in operation wherever the stock of any bulk material (Dusty cargo) is piled in a way to ensure wetness on the surface of stock piles.	Being complied.
26	As regards to deviation in location of facilities such as stock piles and other facilities, from the originally envisaged plan, amendments for the EC and CFE have to be obtained immediately.	This condition is noted & will be followed.
27	The port shall maintain the existing green belt with adequate width and density and in vacant places	<p>Being complied.</p> <ul style="list-style-type: none"> As on 31st March 2023, AKPL has successfully developed 194.5 hectares of greenbelt within its premises since the port's inception. The development of the greenbelt has been carried out in phases I and II, resulting in a total area of 191.5 hectares that has been developed and maintained within the port premises. In line with the expansion plans for phase III of Krishnapatnam Port, an additional 3 hectares of greenbelt has been established, contributing to the proposed 120 hectares of greenbelt for this phase in addition to the existing 191.5 Ha. AKPL is maintaining greenbelt of 100 m width along the periphery, except lighthouse area (north port) and towards AP Genco conveyor (north port). Developed 3.5 Ha of greenbelt was developed near liquid jetty area in phase III along the shoreline boundary. Maintaining 20-meter width greenbelt around the coal stack yards and the gap filling work is in progress
28	The port shall use road sweeping machines to clean all port internal roads regularly.	Being Complied. Operating 2 vacuum machines and 10 mechanical road sweeping mechanic

29	The port shall ensure that the trucks transporting cargos to outside the port shall be covered with tarpaulin to avoid fugitive emissions / spillages.	Being complied.
30	All conveyor belts and other transfer points shall be covered with GI sheets to mitigate fugitive emissions generated during conveying of dusty cargos.	Being complied. Transfer points covered with GI sheets and installed sprinklers for dust suppression.
31	The port shall maintain water sprinklers for effective control of fugitive emissions generated during handling of cargo and increased volume of vehicular traffic.	Being complied.
32	The port shall maintain Mechanical Dust Suppression System (MDSS) for stock yards, dusty cargo berths and conveyor belts.	Being Complied. Operating Mechanical Dust Suppression System (MDSS with 248 Nos. of sprinklers) at coal stacking and wagon loading areas, & at Mechanized coal handling at 3 berths i.e., berth 6,7,8
33	The port shall develop and maintain 100 m width greenbelt along the periphery & 20 m width around coal stack yards as per EC/CFE condition	Being complied. Maintaining 20 meter width greenbelt around the coal stack yards
34	The port shall maintain empty dusty cargo vehicles washing system to clean dusty cargo empty vehicles.	Being complied.
35	The port shall record the energy consumption for the energy meters provided for Sewage Treatment Plant (STP), pump houses to water sprinklers / dust suppression measures and Air Pollution Control Equipments (APCE)	Complied.
36	The port shall not allow any hazardous wastes through the port other than waste oil from DG Set, Waste oil from Ship, Wastes / residues containing oil from ships, used oil generated in the Port without prior permission of Board and shall comply with EC conditions.	Being complied. .
37	The port shall not store any hazardous waste within the premises a per the time frame mentioned in HWM Rules.	Being complied.
38	In case a leaky container of hazardous cargo is found, a separate permission of the Board may be obtained after establishing the quality and the type of waste for disposal	Being complied.
39	All types of the fertilizers should be stored in the closed warehouses only. The Port should	Being complied.

	ensure that there should not be any open storage of urea or any other fertilizer materials. There shall not be any effluent generation	AKPL is storing the fertilizers in the closed sheds.
40	The port shall store fuel oils used for construction equipment, vessels and vehicles in a well-designed manner and protect them against fire hazards by construction of compound wall to prevent access to unauthorized elements. The surface run off from storage area shall pass through oil water separator before being discharged.	Being complied.
41	The port shall provide fire detection and firefighting facilities with adequate water storage in fire prone areas in consultation with Directorate of firefighting.	AKPL obtained Fire NOC. 10 no. of fire monitoring tankers for control of dust suppression and spontaneous ignition. Copy attached as Annexure -11
42	The port shall comply latest technologies for controlling fugitive emissions including the following: 1. Fully mechanized handling equipment for loading and unloading operations 2. Closed conveyor belt with water sprinkling arrangement for suppression of dust while conveying dusty cargoes like coal, iron ore etc. 3. Specially designed iron ore ship loader with necessary precautions to reduce drop height of iron ore into the ship. 4. Mechanical water sprinkling shall be provided on roads and at dusty cargo storage areas for suppression of dust.	Being Complied. 1. Coal ship unloaders and conveyer systems are provided at three berths. 2. Water sprinkler system has been providing in ship unloaders and conveyer system for dust suppression. 3. GI sheet covering has been provided for all transfer towers and Conveyor. 4. Iron ore handling is intermittently taking place. Mechanization of iron ore handling will be resorted to once exports exceed 6 MTPA. 5. Dust suppression measure by means of regular water sprinklers is being followed. 6. 248 Nos mechanized sprinklers are being operated in coal storage yards and 12 Nos mobile tankers 7. 3 Nos heavy duty atomizer sprayers are being deployed.
43	The port shall maintain adequate number of ground water monitoring location on scientific basis and the same shall be monitored every six months.	Being complied.
44	The port shall construct the storm water drains to avoid the contamination of runoff with other	Being complied. Adequate storm water drains are

	effluents.	provided in operational areas.
45	The port shall regularly clean the drains to avoid siltation.	Being complied. Drains are cleaned regularly to avoid siltation
46	The port shall monitor compliance through Environment Management Cell with qualifies and trained staff	Being complied.
47	The port shall maintain onsite emergency action plan after carrying out risk analysis and HAZOP studies.	Being complied.
48	The port shall comply with the conditions of CFE order dated 08.05.2010, 22.02.2018 and 25.2.2021.	Being complied.
49	The port shall submit monthly monitoring reports to RO: Nellore	Being complied.
50	The port shall comply with standards and directions issued by APPCB / CPCB / MoEF&CC as and when notifications are issued from time to time.	Being complied.
51	The port shall install digital display boards at publicly visible places at the main gate indicating the products manufactured Vs permitted quantities, Treated effluent concentrations Vs discharge standards, Stack emission & AAQ concentrations Vs standards, hazardous waste generation, disposed, stock Vs permitted quantities and validity of CFO; and exhibit the CFO order at a prominent place in the factory premises, as per Hon'ble Supreme Court order	Complied.
52	The port shall submit Half yearly compliance reports to all the stipulated conditions in Environmental Clearance (EC), Consent for Establishment (CFE) and Consent for Operation (CFO) through website i.e., https://pcb.ap.gov.in by 1 st of January and 1st July of every year. The first half yearly compliance reports shall be furnished by the industry and second half yearly compliance reports shall be the audited through MoEF&CC recognized and National Accreditation Board for Laboratory Testing (NABL) accredited third party.	Being complied. Submitting the 6 Monthly Self Certified & NABL Accredited 3 rd Party Compliance Reports for the period from April to September & October to March respectively along with Terrestrial & Marine Monitoring reports to MoEF & CC and APPCB. Copies of the Acknowledgements are attached as Annexure – 7
Special conditions		
53	The port shall possess valid NOC issued by the Andhra Pradesh State Disaster Response and	Complied.

	Fire Service Dept., (APSDRFSD) and submit a copy at concerned Regional Office, APPCB.	
54	The port shall prepare a safety report and carry out an independent safety audit report of the respective industrial activities including chemical storages / isolated storages by an expert not associated with such industrial activity as required under Rule 10 of MSIHC Rules, 1989 and get it approved by the Factories Dept., and submit the compliance along with copy of the safety report, safety audit report and safety certificate at concerned Regional Office, APPCB.	Being complied.
55	The port shall extend training to the working personnel for the prevention of accidents and necessary antidotes to ensure safety, as per the MSIHC Rules, 1989	Being complied.
56	The port shall carryout calibration of safety equipment and leak detection systems at regular intervals and shall certify the same with the Factories Department. That certified copy shall be submitted to the APPCB, Regional Office.	Being complied.
57	The port shall install fluorescent Wind Vane at the highest point in the industry premises.	Complied.
58	The port shall submit Risk analysis and risk assessment covering worst scenario clearly describing impact within the industry premises and outside the industry premises and emergency response system.	Being maintained.
59	The port shall submit the copy of the safety audit report and On-Site / Off Site Emergency Plans as applicable after being certified by the Factories Department to the APPCB, Regional Office from time to time, if the storage quantity of hazardous chemicals is equal to or, in excess of the threshold quantities specified in schedule 2 & 3 of MSIHC Rules, 1989	Being complied.
Schedule C		
1	The authorized person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.	Noted and being complied with the condition.
2	The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the State Pollution Control	Being Complied.

	Board.	
3	The person authorized shall not rent, lend, sell, transfer, or otherwise transport the Hazardous and other wastes except what is permitted through this authorization.	Noted and being complied with the condition.
4	Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization	Noted and being complied with the condition.
5	The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site-specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;	Noted and being complied with the condition.
6	The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on “Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty”.	Noted and being complied with the condition.
7	It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close the facility.	Noted and being complied with the condition.
8	An application for the renewal of an authorization shall be made as laid down under these Rules.	Noted and being complied with the condition.

9	Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.	Noted and being complied with the condition.
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Specific conditions		
10	The port shall comply with the provisions of HWM Rules, 2016 in terms of interstate transport of Hazardous Waste and manifest document prescribed Under Rule 18 & 19 of HWM Rules, 2016.	Noted and being complied with the condition.
11	The port shall not store hazardous waste for more than 90 days as per the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.	Noted and being complied with the condition.

12	The port shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till disposal to manufacturers/dealers on buyback basis.	Noted and being complied with the condition.
13	The industry shall transport the hazardous waste to cement industries only through vehicle fitted with GPS tracking system.	Noted and being complied with the condition.
14	The industry shall maintain 7 copy manifest system for transportation of waste generated and a copy shall be submitted to concerned Regional Office of APPCB. The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card	Noted and being complied with the condition. Waste oil generating from the port is being disposed through APEMC Portal authorized vendors.
15	The industry shall maintain proper records for Hazardous and Other Wastes stated in Authorization in Form-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form-4 as per Rule 20 (2) of the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.	Complied. Form – 3 (E – Waste) Annual Report submitted on 30.06.2023 Copy attached as Annexure - 20 Form – 4 (Hazardous Waste) Annual Report submitted on 30.06.2023 Copy attached as Annexure – 21 Form – 8 (Hazardous Waste) Annual Report submitted on 30.06.2023 Copy attached as Annexure - 23
16	Annual return shall be filed by June 30th for the period ensuring 31st March of the year.	Complied. Form – 4 (Hazardous Waste) Annual Report submitted on 30.06.2023 Copy attached as Annexure - 24

-End of the report-