

MONITORING OF ENVIRONMENTAL PLAN FOR JN PORT ENVIRONMENTAL MONITORING REPORT- EXECUTIVE SUMMARY

1. Ambient Air Monitoring:

Monthly average values of Air Pollutants at various stations in JNP Area during February, 2017

STATION	PM ₁₀ [µg/m ³]	PM _{2.5} [µg/m ³]	SO ₂ [µg/m ³]	Nox [µg/m ³]	NH ₃ [µg/m ³]	O ₃ [µg/m ³]	Pb [µg/m ³]	C ₆ H ₆ [µg/m ³]	CO [mg/m ³]	CO ₂ [ppm]
NAAQMS	100	60	80	80	400	100	1	5	4	-
INDUSTRIAL AREA										
POC	218±76.59	56±10.53	31.89±2.40	37.69±3.28	29.88±1.96	10.82±1.47	<0.05	1.74±0.19	1.65±0.16	312.38±30.14
IMC	242.25±79.76	58.63±11.36	33.27±3.22	39.29±4.74	31.47±3.00	11.13±1.58	<0.05	1.81±0.12	1.67±0.19	316.13±22.52
NG	268±46.12	52.5±8.27	35.27±1.51	39.98±2.10	31.94±1.21	11.04±1.14	<0.05	1.79±0.12	1.62±0.13	309±32.28
SG	231±46.22	50.5±8.81	34.24±1.70	40.97±2.65	33.74±1.39	11.19±1.17	<0.05	1.74±0.17	1.65±0.19	304.75±19.55
RESIDENTIAL AREA										
RC	97±17.26	41.5±7.62	26.56±2.47	28.52±2.79	28.68±2.35	9.76±0.94	<0.05	1.44±0.18	1.57±0.26	289.75±22.83
ECO-SENSITIVE AREA										
EC	88	42	26.13	29.41	25.05	9.63	<0.05	<1.0	<1.0	296

Conclusion and Non-confirmatory:

Ambient Air Quality results of the JN Port for the month February 2017 found within CPCB permissible standard limits except PM₁₀ level, which is above permissible limit at all locations due to overall developmental activities except at Elephanta Caves location.

Corrective Action Suggested:

- ✓ Renovation work of old buildings in the JNP Township should be performed under controlled condition like covering the close-by area with mesh cloth to avoid generation of dust at residential area.
- ✓ During earth filling and construction of 4th Container Terminal and road construction significant amount of dust generated which can be minimized by regular water sprinkling on road and dumpers covered with tarpaulin sheets.
- ✓ Up-gradation/Concretization of roads and adequate cleaning, collection of debris from road sides and regular maintenance of paved and unpaved roads should be done, as significant amount of dust is generated due to vehicular movement which might be the source of particulate matter in the nearby areas.
- ✓ Vehicles entering in the Port area must be inspected for PUC document and

instructed for regular maintenance for minimized emission.

- ✓ During transportation of earth filling material and debris, dumpers must be covered with tarpaulin sheets to avoid spreading of dust in the air.

2.0 Marine Water Quality

Observed Concentration Ranges of Marine Water for Various Parameters for JNP Area during Tidal Cycle (For February, 2017)

Sr. No.	Parameter	Observed Range	Unit	Prescribed Limits
1	Temperature	24.5-26.7	°C	-
2	pH	6.94-7.92	-	6.5 - 9.0
3	Salinity	33.7-35.9	ppt	-
4	Turbidity	21.8-49.1	NTU	-
5	TDS	24017-26492	mg/L	-
6	TSS	53-164	mg/L	-
7	TS	24143-26554	mg/L	-
8	DO	5.6-6.9	mg/L	3.0 mg/L(min.) or 40% of saturation value
9	COD	39-95	mg/L	-
10	BOD	<2.0	mg/L	5 (max.)
11	NH ₃ -N	<1.0	mg/L	-
12	Phenol	< 0.001	mg/L	-
13	Oil & Grease	<4.0	mg/L	10 (max.)
14	Total Plate Count	48-131	CFU/ml	-
15	Fecal Coliforms	35-97	MPN/100 mL	500 (max.)

Conclusion:

From the above results it can be concluded that, the Port's working does not affect the Quality of the Marine water. The overall Marine water Quality of the Harbour and Creek waters is in good category.

3.0 Marine Ecology (Flora and Fauna)

Sr. No.	Parameter	Observed Range	Criteria
1	Net Primary Productivity	37.5 - 150 mg C/m ³	<1500 mg C/m ³ /day at surface
2	Chlorophyll <i>a</i>	0.768-1.682 mg/m ³	<4 mg/m ³ (Oligotrophic class), 4-10 mg/m ³ (Mesotrophic class), >10 (Eutrophic class)
3	Phosphate	49-93 µg/L	0.1-90 µg/L
4	Nitrate	2142-2687 µg/L	1.0-500 µg/L
5	Nitrite	< 10 µg/L	<125 µg/L
6	Particulate Organic Carbon	321-631 mg/m ³	10-100 mg/m ³
7	Silicate	2238-3233 µg/L	10-5000 µg/L

The observations recorded during month February 2017, showed that the values of Phosphate was slightly higher whereas Nitrates and Particulate Organic Carbon (POC) exceeds the prescribe standards which may be usual phenomenon occurred due to discharge of untreated sewage and industrial waste into the sea water from the concerned authorities like Brihanmumbai Municipal Corporation, Thane Municipal Corporation and Panvel Municipal Corporation etc. On the other hand, Net Primary Productivity, Chlorophyll-a, Nitrite and Silicate are well within prescribe standards for ecological parameters for Arabian Sea.

Considering the activities in JNP Harbour and Nhava Creek area, it is seen that the marine ecosystem is not adversely affected by Port activities.

Corrective Action Suggested:

Utmost care should be taken for treatment of sewage and industrial waste before discharging into the open sea by concerned authorities like Brihanmumbai Municipal Corporation (BMC), Thane Municipal Corporation (TMC) and Panvel Municipal Corporation (PMC) etc.

4.0 Drinking Water Quality

The drinking water being supplied to JN Port is safe for drinking purpose at all drinking water monitoring stations around port area as per the drinking water specifications given in **IS 10500:2012** and also on the basis of analysis parameters.