

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 JNPT Area during May, 2018

station name	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³	O ₃ µg/m ³	Pb µg/m ³	As ng/m ³	Ni ng/m ³	C ₆ H ₆ µg/m ³	B(a)P ng/m ³	CO µg/m ³	CO ₂ µg/m ³
NAAQS	100	60	80	80	100	1	6	20	5	1	4	
Industrial (Port Operation) area												
POC	70.2	47.7	30.01	35.5	14.3	<0.5	<5	<1.0	1.4	<0.5	1.5	353.6
IMC	109.0	49.9	33.5	39.9	13.6	<0.5	<5	<1.0	1.5	<0.5	1.7	360.0
NG	110.8	53.9	31.9	38.9	12.1	<0.5	<5	<1.0	1.3	<0.5	1.7	330.2
SG	98.5	53.3	30.3	33.0	11.9	<0.5	<5	<1.0	1.6	<0.5	1.6	342.4
APM	97.0	47.9	33.9	37.2	12.2	<0.5	<5	<1.0	1.7	<0.5	1.6	329.6
BMCT	48.2	48.2	28.0	34.4	13.6	<0.5	<5	<1.0	1.2	<0.5	1.6	340.9
Residential area												
RC	44.2	32.7	24.7	29.0	11.6	<0.5	<5	<1.0	1.4	<0.5	1.3	342.9
Eco sensitive area												
EC	81	35	15.4	25.6	9.8	<0.5	<5	<1.0	<1.0	<0.5	<1.0	300.4

Conclusion:

From the results obtained for the month of May, 2018, it is noticed that overall ambient air quality of the JN Port area is within CPCB limits, except the levels of PM₁₀ at Indian Molasses Company (IMC) and North Gate Complex (NG) site which is exceed little bit more than the above permissible limit which due to change in weather pattern. To overcome air pollution problem port has initiated number of precautionary measures, such as use of water sprinklers on project and road site, time to time cleaning of paved and unpaved roads, use of tarpaulin sheets to cover dumpers and tree plantation etc.

Corrective Action Suggested:

- Plantation of trees adjacent to the construction site/road for wind barriers.
- Green mesh cloth should be used to minimize dust generated during renovation work at JNP Township.
- Dumper carrying construction material and earth filing material must be covered with tarpaulin sheet to avoid spreading of dust particle in the air.
- Mechanical cleaning of road must be initiated at port premises to reduce PM₁₀.
- PUC documents must be strictly checked of all vehicles entering into the port region and promote for routine maintenance of vehicle to lessen emission.

- Time to time collection of wreckage and frequent cleaning should be done from paved and unpaved road.

2.0 Marine Water Quality

Table 2 observed concentration ranges of marine water for various parameters for JNP Area during tidal cycle (For May, 2018)

Sl. No.	Parameter	Unit	Observed Range	Prescribed Limits
1	Temperature	°C	23.5-26.1	-
2	pH	-	6.9-7-8	6.5 - 9.0
3	Salinity	ppt	31.2-34.8	-
4	Turbidity	NTU	19.5-39.8	-
5	TDS	mg/L	20145-24715	-
6	TSS	mg/L	89-163	-
7	TS	mg/L	20257-24878	-
8	DO	mg/L	7.1-7.5	3.0 mg/L(min.) or 40% of saturation value
9	COD	mg/L	43-96	-
10	BOD	mg/L	<2.0	5 (max.)
11	NH ₃ -N	mg/L	<1.0	-
12	Phenol	mg/L	<0.001	-
13	Oil & Grease	mg/L	<4.0	10 (max.)
14	Total Plate Count	CFU/ml	63-145	-
15	Fecal Coliforms	MPN/100ml	48-129	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 is in good category.

3.0 Marine Ecology (Flora and Fauna)

Sr. No.	Parameter	Observed Range	Criteria
1	Net Primary Productivity	62.5-112.5 mg C/m ³	<1500 mg C/m ³ /day at surface
2	Chlorophyll a	0.612-0.598 mg/m ³	<4 mg/m ³ (Oligotrophic class), 4-10 mg/m ³ (Mesotrophic class), >10 (Eutrophic class)
3	Phosphate	43-85 µg/L	0.1-90 µg/L

4	Nitrate	1829-2487 µg/L	1.0-500 µg/L
5	Nitrite	<10 µg/L	<125 µg/L
6	Particulate Organic Carbon	438-628 mg/m ³	10-100 mg/m ³
7	Silicate	1978-2476 µg/L	10-5000 µg/L

The results obtained from the study for the month of May 2018. The values for Nitrates and Particulate Organic Carbon (POC) exceeds the prescribed standards which might be usual phenomenon happening due to discharge of untreated sewage and Industrial waste in to the sea water by the concerned authorities Brihanmumbai Municipal Corporation, Thane Municipal Corporation, Panvel Municipal Corporation, Uran Municipal Council, Navi Mumbai Municipal Corporation and nearby villages etc. On the other hand, Net Primary Productivity and Chlorophyll-a were well within prescribe standards for ecological parameters for Arabian Sea.

Phosphate, Nitrite and Silicate are also well within prescribing standards for ecological parameters for Arabian Sea. However, considering the activities in JNP Harbour, it is seen that the marine ecosystem is not adversely affected by Port activities.

Corrective Action Suggested:

Proper care should be taken for treatment of sewage and industrial waste before discharging into the open sea by concerned authorities like Brihanmumbai Municipal Corporation, Thane Municipal Corporation and Panvel Municipal Corporation, Uran Municipal Council, Navi Mumbai Municipal Corporation and nearby villages, 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 are found to be as per the drinking water specifications given in IS 10500:2012 and also on the basis of analysis parameters.