

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 August, 2016

STATION	PM10, [$\mu\text{g}/\text{m}^3$]	PM2.5, [$\mu\text{g}/\text{m}^3$]	SO ₂ , [$\mu\text{g}/\text{m}^3$]	NO _x , [$\mu\text{g}/\text{m}^3$]	NH ₃ , [$\mu\text{g}/\text{m}^3$]	O ₃ , [$\mu\text{g}/\text{m}^3$]	Pb, [$\mu\text{g}/\text{m}^3$]	C6H6, [$\mu\text{g}/\text{m}^3$]	CO, [mg/m^3]	CO ₂ , [ppm]
NAAQMS	100	60	80	80	400	100	1	5	4	-
INDUSTRIAL AREA										
POC	169 ± 52	58 ± 9	25.36 ± 3.78	30.18 ± 4.11	27.30 ± 4.03	10.16 ± 0.94	<0.01	1.37 ± 0.45	1.20 ± 0.09	292 ± 18
IMC	162 ± 53	50 ± 9	28.28 ± 4.83	36.46 ± 7.48	25.01 ± 3.36	9.94 ± 0.76	<0.01	1.18 ± 0.12	1.17 ± 0.11	298 ± 28
NG	198 ± 35	52 ± 5	25.07 ± 2.56	31.63 ± 1.32	28.05 ± 9.31	9.65 ± 0.99	<0.01	1.14 ± 0.12	1.19 ± 0.13	290 ± 22
SG	167 ± 40	45 ± 6	27.78 ± 1.81	31.64 ± 2.76	26.08 ± 4.80	10.29 ± 0.69	<0.01	1.23 ± 0.11	1.16 ± 0.11	294 ± 19
RESIDENTIAL AREA										
RC	122 ± 21	45 ± 7	25.98 ± 4.19	30.05 ± 4.83	24.50 ± 5.74	9.82 ± 0.94	<0.01	1.18 ± 0.09	1.22 ± 0.09	295 ± 22
ECO-SENSITIVE AREA										
EC	89	38	17.91	25.41	18.61	8.37	<0.01	<1.0	<1.0	279

Conclusion:

From the results obtained for the month of August 2016, it can be concluded that overall Ambient Air quality of the JN Port is within CPCB limits, except the levels of PM₁₀ which is higher at all locations due to port development activities, except at Elephanta Caves.

2. Marine Water Quality

Observed Concentration Ranges of Marine Water for Various Parameters for JNP Harbour Area during Tidal Cycle

Sr. No.	Parameter	Observed Range	Unit	Prescribed Limits
1	Temperature	24.1-26.7	°C	-
2	pH	6.9-7.8	-	6.5 - 9.0
3	Salinity	24.2-26.8	ppt	-
4	Turbidity	12.9-36.6	NTU	-
5	TDS	18025-19826	mg/L	-
6	TSS	40-173	mg/L	-
7	TS	18172-19925	mg/L	-
8	DO	5.7-6.7	mg/L	3.0 mg/L(min.) or 40% of saturation value
9	COD	34-86	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	31-94	CFU/ml	-
15	Fecal Coliforms	15-82	MPN/100 mL	500 (max.)

Observed Concentration Ranges of Marine Water for Various Parameters for Nhava Creek Area during Tidal Cycle

Sr. No.	Parameter	Observed Range	Unit	Prescribed Limits
1	Temperature	24.9-26.1	°C	-
2	pH	7.1-7.5	-	6.5 - 9.0
3	Salinity	24.8-25.9	ppt	-
4	Turbidity	13.5-18.7	NTU	-
5	TDS	18145-19509	mg/L	-
6	TSS	33-57	mg/L	-
7	TS	18184-19550	mg/L	-
8	DO	5.4 – 5.9	mg/L	3.0 mg/L(min.) or 40% of saturation value
9	COD	42-61	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	64-144	CFU/ml	-
15	Fecal Coliforms	22-54	MPN/100 mL	500 (max.)

Conclusion:

Considering the activities in the Harbour area and the results obtained during Tidal Cycle for the month of August 2016, 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 Port's Harbour and Creek waters is in good category.

3.0 Marine Ecology (Flora and Fauna)

Observations and Conclusions

Considering the various activities in JNP Harbour and NHAVA Creek area, it is seen from the following table that apparently the marine ecosystem is not adversely affected by following activities.

- ✓ *Plying of Ferry Boats:* There were large numbers of ferry boats plying in the area from Gateway of India to Elephanta and from JNPT to Ferry Wharf.
- ✓ *Construction of NSIGT Yard is underway to the North side of JNPT.*
- ✓ *Construction of 4th Container Terminal on South side of JNPT:* Construction work of 4th Container Terminal is continued in August 2016.

It is seen from the data of Marine Ecology, as reported in Tables and subsequently discussed in above paragraphs, the major parameters comply with recommended ranges of the ecological parameters for Arabian Sea during August, 2016