

AMBIENT NOISE LEVEL AND AIR QUALITY DURING DEEPAWALI,2018 OF MAJOR CITIES/TOWNS OF ODISHA

1. BERHAMPUR

- Latitude & Longitude :19⁰18'N/84⁰51'E
- Climate/Meteorology: Dry
- Population :3,56,598(as per 2011 census)
- Major land use: Residential & Commercial

DESCRIPTION OF MONITORING AREA:

- 1 Location-A (Residential Zone) - Brahmanagar
- 2 Location-B (Commercial Zone) - Girija Market square
- 3 Location-C (Silence Zone) - MKCG Medical College Hospital Campus
- 4 Location-D (Industrial Zone) - Industrial Estate, Ankuli

NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018:

Location : A Brahmanagar	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Residential	Lmin	Lmax	LeqdB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		44.1	71.5	55.2	49.2	80.5	64.9
19:00 to 20:00 Hr		47.8	65.5	53.5	51.4	105.3	78.8
20:00 to 21:00 Hr		48.3	68.3	54.6	52.3	108.5	82.2
21:00 to 22:00 Hr		45.2	64.2	52.0	53.6	110.2	83.5
22:00 to 23:00 Hr		42.2	63.8	51.2	50.2	78.3	62.5
23:00 to 24:00 Hr		41.4	62.6	50.0	43.3	74.3	52.5

Location : B Girija Market square	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Commercial	Lmin	Lmax	LeqdB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		64.6	96.1	79.6	60.1	91.7	73.8
19:00 to 20:00 Hr		63.2	95.6	76.5	61.5	102.5	84.8
20:00 to 21:00 Hr		55.5	98.6	75.6	62.9	106.5	86.5
21:00 to 22:00 Hr		54.5	92.2	74.5	63.5	103.2	78.2
22:00 to 23:00 Hr		48.1	88.9	71.1	55.8	92.2	72.2
23:00 to 24:00 Hr		44.5	74.1	52.2	51.6	84.2	66.8

Location : C MKCG Medical College Hospital Campus	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Silence	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		42.9	69.1	58.2	47.5	80.1	62.0
19:00 to 20:00 Hr		42.3	72.2	57.2	53.6	88.2	69.2
20:00 to 21:00 Hr		41.2	68.5	52.3	54.2	90.2	62.2
21:00 to 22:00 Hr		43.2	72.2	53.2	55.6	88.6	63.4
22:00 to 23:00 Hr		40.1	69.6	51.3	40.4	85.6	62.5
23:00 to 24:00 Hr		40.2	70.6	50.4	39.3	81.8	61.6

Location : D Industrial Estate, Ankuli	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Industrial	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		55.9	86.0	71.3	50.9	106.5	80.3
19:00 to 20:00 Hr		53.2	90.2	73.2	52.5	108.2	82.2
20:00 to 21:00 Hr		46.3	89.5	72.2	49.5	102.3	85.3
21:00 to 22:00 Hr		45.2	90.2	70.5	53.3	85.1	69.4
22:00 to 23:00 Hr		44.2	85.2	68.2	48.5	78.2	65.2
23:00 to 24:00 Hr		43.3	81.7	67.0	35.5	77.8	60.0

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)- Berhampur City

Data/ Observations:-

Name Of The Location: Regional Office Building, Berhampur														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	BDL	18.9	34	21	0.001	ND	9.0	0.034	7.9	3.4	0.074	0.21	8.5	0.004
01.11.2018	BDL	16.3	34	24	0.001	0.3	4.6	0.012	6.4	3.6	0.064	0.15	5.9	0.044
02.11.2018	BDL	14.5	30	10	0.004	0.1	6.0	0.018	7.4	2.32	0.081	0.24	8.5	0.004
03.11.2008	BDL	20.8	37	17	0.002	0.7	9.6	0.020	7.0	3.51	0.064	0.059	7.4	0.005
04.11.2018	BDL	14.1	23	19	0.004	0.1	3.3	0.22	15.6	2.86	0.064	0.22	5.5	0.006
05.11.2018	BDL	17.3	38	24	0.002	0.08	4.2	0.045	25.8	6.45	0.050	0.24	4.9	0.010
06.11.2018	BDL	16.1	39	22	0.001	0.2	5.3	0.008	34.5	22.6	0.035	0.159	3.7	0.005
07.11.2018	24.3	48.6	99	63	2.26	16.4	72.8	0.36	49.4	26.90	0.63	2.72	14.1	0.157
08.11.2018	BDL	24.4	74	47	1.48	4.7	32.8	0.012	13.7	14.8	0.12	0.092	9.57	0.006
09.11.2018	BDL	13.9	71	39	0.011	0.23	15.41	0.017	6.89	11.6	0.093	0.050	7.32	0.005
10.11.2018	BDL	20.5	63	27	0.022	2.29	24.4	0.018	3.43	13.6	0.063	0.087	6.34	0.005
11.11.2018	BDL	31	65	32	0.013	2.13	27.2	0.002	ND	15.2	ND	0.022	4.07	0.005
12.11.2018	BDL	14.2	57	40	0.031	2.92	24.22	0.019	8.57	4.2	0.171	0.094	1.39	0.003
13.11.2018	BDL	17.8	42	23	0.015	1.49	18.8	0.022	3.72	4.5	0.080	0.044	0.42	0.002
14.11.2018	BDL	15.8	65	36	0.011	2.6	12.2	0.086	6.76	4.9	0.087	0.048	0.53	0.003

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³, ND-Not Detected

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

2. BHUBANESWAR

- Latitude & Longitude : 20°16'48.2"N/85°48'46.2"E
- Climate/Meteorology: Dry
- Population : 8,85,363 (As per Census-2011)
- Major land use: Residential & Commercial

DESCRIPTION OF MONITORING AREA:

1. Location-A (Residential Zone) - Nayapalli
2. Location-B (Commercial Zone) - Sahid Nagar
3. Location-C (Silence Zone) - Capital Hospital
4. Location-D (Industrial Zone) - Rasulgarh

NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018 (Bhubaneswar)

Location: A Nayapalli	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Residential	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		53.1	83.1	67.9	59.7	88.1	76.5
19:00 to 20:00 Hr		51.9	83.1	67.7	57.9	90.5	72.2
20:00 to 21:00 Hr		49.5	89.1	66.6	65.4	106.9	80.8
21:00 to 22:00 Hr		51.6	71.2	61.1	66.8	103.8	81.9
22:00 to 23:00 Hr		49.1	73.7	54.8	54.4	81.4	69.0
23:00 to 24:00 Hr		43.3	76.3	54.5	55.8	82.2	71.7

Location: B Sahid Nagar	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Commercial	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		58.3	86.3	71.7	66.9	92.2	76.1
19:00 to 20:00 Hr		52.4	85.7	70.0	68.1	92.0	79.1
20:00 to 21:00 Hr		51.5	86.6	67.7	61.2	91.5	73.3
21:00 to 22:00 Hr		55.1	78.6	65.4	60.2	85.9	73.2
22:00 to 23:00 Hr		46.9	82.5	62.3	47.1	78.2	61.3
23:00 to 24:00 Hr		52.5	69.5	58.8	45.9	80.1	67.4

Location: C Capital Hospital	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Silence	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		50.7	84.5	60.4	51.8	88.0	65.7
19:00 to 20:00 Hr		42.9	83.4	64.3	54.1	81.1	63.8
20:00 to 21:00 Hr		46.3	74.4	58.8	52.9	84.7	67.1
21:00 to 22:00 Hr		48.6	71.6	56.9	53.6	87.3	65.2
22:00 to 23:00 Hr		46.0	61.4	49.3	45.6	80.8	61.0
23:00 to 24:00 Hr		46.1	54.2	48.0	46.0	72.4	54.8

Location: D Rasulgarh	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali day (07.11.2018)		
Time duration	Industrial	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr		61.6	85.6	72.5	52.6	87.5	71.9
19:00 to 20:00 Hr		59.2	88.3	73.3	50.8	89.6	68.1
20:00 to 21:00 Hr		59.6	83.4	68.5	56.9	85.7	72.8
21:00 to 22:00 Hr		62.6	82.7	69.4	54.2	87.1	68.7
22:00 to 23:00 Hr		56.4	89.0	67.1	48.5	85.6	69.8
23:00 to 24:00 Hr		52.5	72.9	63.0	47.5	71.2	60.3

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)- Bhubaneswar city

Data/ Observations:-

Name Of The Location: IRC Village Nayapalli														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	BDL	16.5	85	17	0.010	5.81	15.95	0.032	8.57	4.94	0.138	0.024	0.591	0.004
01.11.2018	BDL	23.0	98	42	0.005	6.42	18.72	0.008	ND	2.08	0.202	0.019	0.089	ND
02.11.2018	BDL	17.4	101	57	0.005	7.80	13.38	0.002	2.29	5.25	0.265	0.050	0.413	0.006
03.11.2008	BDL	21.2	99	31	0.025	6.94	15.37	0.013	7.01	5.90	0.268	0.059	0.361	0.002
04.11.2018	BDL	20.9	95	29	ND	5.36	7.60	0.020	2.88	6.89	0.177	0.115	1.77	0.003
05.11.2018	BDL	18.7	115	26	0.095	7.84	10.28	0.013	2.37	6.58	0.105	0.071	0.483	0.002
06.11.2018	BDL	24.1	117	25	0.015	10.35	9.90	0.01	3.69	5.30	0.238	0.30	0.619	0.0473
07.11.2018	7.6	44.0	172	102	0.38	13.28	26.90	0.132	8.09	14.28	0.676	2.35	16.66	0.0802
08.11.2018	BDL	23.6	114	79	0.015	11.25	17.23	0.096	6.44	10.46	0.467	1.80	10.43	0.056
09.11.2018	BDL	22.8	111	47	0.039	3.21	14.007	0.049	5.60	8.33	0.299	1.01	8.38	0.040
10.11.2018	BDL	21.9	106	34	0.031	5.74	12.91	0.050	7.40	7.02	0.324	0.086	5.22	0.028
11.11.2018	BDL	23.1	103	35	0.021	5.63	12.14	0.020	6.11	8.88	0.268	0.066	2.16	0.030
12.11.2018	BDL	20.2	99	46	0.009	20.44	8.99	0.010	5.44	6.44	0.331	0.058	1.09	0.020
13.11.2018	BDL	22.8	102	48	0.046	19.1	15.49	0.008	4.40	4.86	0.205	0.74	0.869	0.026
14.11.2018	BDL	21.4	105	20	0.008	3.06	12.06	0.006	2.14	5.23	0.186	0.044	0.544	0.028

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³, ND-Not Detected

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)-Bhubaneswar city

Data/ Observations:-

Name Of The Location: Central laboratory, Bhubaneswar														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	BDL	22.1	120	49	0.027	9.44	10.8	0.028	3.70	3.29	0.440	0.372	0.84	0.009
01.11.2018	BDL	24.7	96	33	0.031	8.22	11.8	0.017	5.77	8.64	0.217	0.115	0.72	0.001
02.11.2018	BDL	17.0	147	39	0.046	17.78	14.26	0.021	9.43	8.04	0.255	0.092	0.64	0.001
03.11.2008	BDL	15.5	120	37	0.042	19.45	12.51	0.03	20.8	9.32	0.672	0.171	2.03	0.007
04.11.2018	BDL	18.4	121	32	0.031	28.22	11.34	0.087	16.98	8.11	0.417	0.220	1.16	0.008
05.11.2018	BDL	24.2	136	44	0.033	28.24	15.06	0.014	14.9	6.64	0.52	1.71	6.38	0.009
06.11.2018	BDL	19.6	106	32	0.069	29.02	20.69	0.012	9.27	7.44	0.41	0.42	3.61	0.023
07.11.2018	14.7	38.4	205	84	0.130	45.98	42.91	0.329	33.6	18.6	0.73	2.94	27.29	0.075
08.11.2018	BDL	20.1	134	38	0.064	28.50	29.35	0.246	20.6	11.8	0.60	1.38	17.8	0.055
09.11.2018	BDL	18.1	172	50	0.061	25.92	22.58	0.108	23.2	9.34	0.51	0.964	11.56	0.030
10.11.2018	BDL	23.0	124	68	0.076	26.31	24.70	0.099	18.5	8.25	0.44	0.711	5.48	0.018
11.11.2018	BDL	20.9	100	71	0.066	18.97	22.29	0.038	16.9	6.04	0.39	0.329	3.39	0.009
12.11.2018	BDL	19.3	86	37	0.093	24.23	19.66	0.042	18.4	7.18	0.42	0.201	1.06	0.004
13.11.2018	BDL	19.2	103	48	0.066	24.65	12.38	0.030	14.3	5.39	0.39	0.106	0.94	0.003
14.11.2018	BDL	21.0	148	62	0.080	25.65	14.13	0.026	8.6	4.46	0.40	0.244	0.80	0.003

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³, ND-Not Detected

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

3. CUTTACK

- Latitude & Longitude :20° 28' N, 85° 54' E
- Climate/Meteorology : Clear
- Population :6,94,980 as per 2011 Census
- Major Land use : Urban local bodies (Details of land use is attached in a separate Sheet extracted from CDPA)

DESCRIPTION OF MONITORING AREA:

1. Location-A (Residential Zone) - Suryavihar, Link Road
2. Location-B (Commercial Zone) - Badambadi
3. Location-C (Silence Zon) - SCB Medical College & Hospital
4. Location-D (Industrial Zone) - Khapuria Industrial Estate

NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018:

Location : A Suryavihar Link Road	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Residential	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		62.9	87.0	67.0	49.6	91.1	66.2
19:00 to 20:00 Hr		51.4	81.3	62.0	51.2	93	71.0
20:00 to 21:00 Hr		55.2	79.6	66.2	50.9	94.3	71.8
21:00 to 22:00 Hr		51.8	85.8	66.0	62.6	84.5	70.8
22:00 to 23:00 Hr		58.5	85.4	69.6	50.3	94.3	76.6
23:00 to 24:00 Hr		62.9	87.7	75.0	41.8	85.6	71.0

Location : B Badambadi	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Commercial	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		57.4	87.0	67.1	59.7	98.6	76.5
19:00 to 20:00 Hr		47.2	77.9	59.3	49.2	92.6	75.7
20:00 to 21:00 Hr		50.6	78.5	60.4	54.2	95.9	73.6
21:00 to 22:00 Hr		53.8	88.0	70.7	63.6	92.4	74.5
22:00 to 23:00 Hr		53.6	91.1	69.8	54.5	97.3	73.6
23:00 to 24:00 Hr		64.2	85.2	72.5	57.4	88.4	72.8

Location : C SCB Medical College & Hospital	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Silence	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		46.9	81.3	61.7	62.0	86.0	71.4
19:00 to 20:00 Hr		46.0	75.4	60.6	50.0	97.5	72.6
20:00 to 21:00 Hr		30.3	70.8	50.4	55.6	94.3	74.7
21:00 to 22:00 Hr		60.5	92.0	74.2	64.5	98.2	80.1
22:00 to 23:00 Hr		50.2	98.9	69.5	48.3	90.7	69.3
23:00 to 24:00 Hr		63.9	89.2	74.2	62.1	91.3	68.7

Location : D Khapuria Industrial Estate	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Industrial Estate	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		41.6	75.5	58.0	62.7	86.4	73.1
19:00 to 20:00 Hr		58.9	90.4	69.7	63.1	117.8	85.1
20:00 to 21:00 Hr		47.9	81.6	59.4	51.9	97.9	75.3
21:00 to 22:00 Hr		45.2	80.8	57.4	62.7	95.2	76.6
22:00 to 23:00 Hr		32.2	94.6	66.6	62.9	91.2	69.2
23:00 to 24:00 Hr		62.9	86.6	71.8	63.3	85.3	72.4

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)- Cuttack City

Data/ Observations:-

Name Of The Location: RO, Building Suryavihar Cuttack														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	BDL	27.8	107	49	0.007	1.405	3.7	0.161	16.35	2.53	0.035	0.043	3.37	0.001
01.11.2018	BDL	26.9	101	35	0.009	0.554	4.72	0.095	28.47	2.97	0.055	0.054	3.46	0.002
02.11.2018	BDL	29.3	116	35	0.003	ND	4.63	0.018	25.84	2.4	0.027	0.24	3.45	0.001
03.11.2008	BDL	29.6	103	41	0.0031	0.90	5.34	0.016	35.54	2.7	0.136	0.048	3.02	0.002
04.11.2018	BDL	26.6	77	38	0.009	0.065	4.77	0.011	33.81	2.29	0.047	0.055	5.60	0.001
05.11.2018	BDL	30.1	91	36	0.001	0.103	5.98	0.027	30.46	2.9	0.156	0.098	5.07	0.011
06.11.2018	BDL	30.9	84	39	0.005	1.26	5.06	0.017	45.33	2.69	0.13	0.13	5.77	0.01
07.11.2018	8.8	42.0	218	119	0.044	6.48	34.42	0.94	45.00	13.48	0.23	1.42	8.10	0.050
08.11.2018	5.5	32.8	155.3	109	0.026	2.82	24.2	0.84	16.41	10.03	0.09	0.65	0.44	0.002
09.11.2018	4.9	31.8	195.3	82	0.028	1.42	24.1	ND	ND	8.50	0.019	0.29	0.16	0.001
10.11.2018	6.2	34.7	195.3	90	0.025	4.00	27.6	ND	17.05	2.80	0.020	0.30	0.22	0.001
11.11.2018	4.5	33.5	145	88	0.022	3.23	23.4	0.04	ND	2.7	0.030	0.26	0.19	0.002
12.11.2018	4.2	31.8	189	99	0.014	0.728	13.9	0.02	11.81	3.84	0.14	0.30	0.36	0.002
13.11.2018	4.9	31.6	212.7	94	0.019	2.33	14.40	0.02	18.33	3.72	0.06	0.54	0.34	0.002
14.11.2018	5.9	33.5	197.3	111	0.017	0.239	18.12	0.01	12.32	2.62	0.06	0.036	0.43	0.001

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³, ND-Not Detected

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

4. Rourkela

- Latitude & Longitude :22.2492° N, 84.8828° E
- Climate/Metrology :Dry
- Population :3,20,040(as per 2011 census)
- Major land use : Residential & Commercial

DESCRIPTION OF MONITORING AREA:

1. Location-A (Residential Zone) - Sector-4
2. Location-B (Commercial Zone) - Bisra Chowk
3. Location-C (Silence Zone) - IGH, Steel Township
4. Location-D(Industrial Zone) - In front of main gate of RSP(SAIL)

NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018:

Location :A Sector-4	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Residential	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		38.2	85.5	44.3	46.1	98.2	71.2
19:00 to 20:00 Hr		39.8	88.1	45.8	47.6	97.3	72.1
20:00 to 21:00 Hr		39.6	78.3	45.3	48.8	95.1	81.3
21:00 to 22:00 Hr		39.2	68.1	46.1	48.2	98.5	79.2
22:00 to 23:00 Hr		37.5	53.1	45.8	42.9	86.1	62.5
23:00 to 24:00 Hr		36.9	52.2	45.0	41.3	68.3	60.6

Location : B BisraChowk	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Commercial	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		49.3	92.9	76.6	54.2	108.6	87.2
19:00 to 20:00 Hr		45.2	90.4	74.2	55.4	105.1	89.3
20:00 to 21:00 Hr		43.3	89.3	72.3	53.2	95.3	86.7
21:00 to 22:00 Hr		48.1	91.1	75.5	53.9	96.7	78.3
22:00 to 23:00 Hr		47.1	88.6	72.8	53.1	98.6	76.4
23:00 to 24:00 Hr		46.8	72.1	69.6	50.7	95.3	70.3

Location : C IGH, Steel Township	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Silence	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		41.2	61.1	44.0	46.7	88.3	50.7
19:00 to 20:00 Hr		42.3	66.7	44.5	47.5	86.6	51.1
20:00 to 21:00 Hr		38.1	54.8	42.6	48.6	87.9	53.9
21:00 to 22:00 Hr		39.8	55.2	44.1	48.3	80.8	53.2
22:00 to 23:00 Hr		39.1	44.5	43.3	40.7	78.1	47.1
23:00 to 24:00 Hr		36.5	56.1	38.3	38.6	76.3	43.2

Location : D In front of main gate of RSP(SAIL)	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Industrial	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		49.0	80.8	66.4	49.8	78.2	68.8
19:00 to 20:00 Hr		46.7	79.1	63.3	47.4	76.1	66.5
20:00 to 21:00 Hr		43.3	75.6	56.1	46.6	72.3	65.6
21:00 to 22:00 Hr		44.1	76.1	57.6	45.3	76.9	60.6
22:00 to 23:00 Hr		43.6	69.4	54.1	44.7	77.2	54.8
23:00 to 24:00 Hr		41.6	70.2	51.9	43.3	76.6	52.3

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)- Rourkela City

Data/ Observations:-

Name Of The Location: R.O Office Building, Rourkela														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	10.0	16.2	86	71	0.009	1.24	11.12	0.191	4.55	3.54	0.059	0.036	0.575	0.001
01.11.2018	9.9	15.3	78	71	0.006	0.307	4.71	0.132	41.10	3.62	0.097	0.051	1.165	0.002
02.11.2018	11.3	16.4	86	53	0.005	0.328	6.14	0.211	21.51	2.85	0.078	0.04	0.70	0.001
03.11.2018	11.4	16.1	105	31	0.008	ND	8.14	0.106	7.29	3.02	0.194	0.152	2.29	0.008
04.11.2018	13.3	16.7	99	62	0.014	0.39	11.4	0.151	12.57	3.43	0.229	0.202	1.19	0.008
05.11.2018	13.5	17.6	110	77	0.025	2.5	19.2	0.506	8.48	6.80	0.176	0.132	1.8	0.007
06.11.2018	14.4	17.2	119	78	0.108	2.11	19.6	0.604	7.178	21.4	0.655	1.636	0.615	0.090
07.11.2018	25.7	43.5	188	110	0.14	15.8	23.6	0.947	34.43	44.7	0.958	3.01	2.534	0.209
08.11.2018	9.7	13.4	163	90	0.016	11.1	18.27	0.24	16.60	33.15	0.160	0.084	0.991	0.006
09.11.2018	10.9	14.1	158	89	0.024	2.9	17.7	0.22	12.60	24.97	0.109	0.183	0.269	0.002
10.11.2018	10.4	13.8	110	76	0.016	2.84	18.4	0.18	13.25	30.56	0.151	0.112	0.476	0.005
11.11.2018	11.7	12.0	127	80	0.014	1.95	19.1	0.31	7.72	4.17	0.219	0.131	0.893	0.006
12.11.2018	9.7	14.2	114	78	0.068	2.88	13.2	0.19	5.52	3.79	0.208	0.043	0.50	0.005
13.11.2018	10.0	13.1	96	62	0.013	2.52	19.18	0.32	4.89	3.24	0.163	0.587	0.431	0.010
14.11.2018	10.8	14.2	128	68	0.016	3.5	14.9	0.05	9.90	3.60	0.140	0.22	0.382	0.007

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

5. SAMBALPUR

- Latitude & Longitude : 20⁰47'N / 83⁰97' E
- Climate/Meteorology: Dry
- Population : 1,89,366 (as per 2011 census)
- Major land use: Residential & Commercial

DESCRIPTION OF MONITORING AREA:

1. Location-A (Residential Zone)-Ainthapalli
2. Location-B (Commercial Zone) -Goal Bazar Chowk
3. Location-C (Silence Zone) -Dist Head Quarter Hospital, Modipara
4. Location-D (Industrial)-Bareipali

NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2018:

Location : A Ainthapalli	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Residential	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		60.5	84.5	68.9	58.7	115.3	89.8
19:00 to 20:00 Hr		60.7	87.1	68.5	54.7	97.7	73.0
20:00 to 21:00 Hr		56.7	81.4	65.8	55.2	96.6	72.2
21:00 to 22:00 Hr		57.8	83.5	65.8	55.9	94.9	74.0
22:00 to 23:00 Hr		53.9	81.2	63.5	53.6	98.6	73.4
23:00 to 24:00 Hr		50.3	78.6	61.3	51.0	88.6	69.1

Location : B Goal Bazar Chowk	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Commercial	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		63.3	98.4	75.3	58.6	116.4	88.0
19:00 to 20:00 Hr		59.8	100.2	77.3	61.3	116.3	92.0
20:00 to 21:00 Hr		54.6	87.5	70.3	59.3	117.9	91.2
21:00 to 22:00 Hr		54.7	84.1	70.8	56.8	119.1	92.8
22:00 to 23:00 Hr		46.0	82.0	62.0	57.6	119.3	92.7
23:00 to 24:00 Hr		44.7	85.3	65.4	48.4	102.3	82.8

Location : C Dist Head Quarter Hospital Modipara	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Silence	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		51.1	83.9	65.4	44.9	87.6	64.3
19:00 to 20:00 Hr		44.5	71.3	57.2	53.1	96.3	69.8
20:00 to 21:00 Hr		46.3	75.5	57.9	50.9	97.3	72.2
21:00 to 22:00 Hr		46.4	80.7	57.5	51.8	92.5	69.7
22:00 to 23:00 Hr		41.3	74.0	55.2	51.1	94.2	68.5
23:00 to 24:00 Hr		37.6	66.3	49.6	40.0	92.1	65.5

Location : D Bareipali	Area/ Zone	Pre-Deepawali Day (01.11.2018)			Deepawali Day (07.11.2018)		
Time duration	Industrial	L _{min}	L _{max}	Leq dB(A)	L _{min}	L _{max}	Leq dB(A)
18:00 to 19:00 Hr		60.5	84.5	68.9	45.1	90.7	67.4
19:00 to 20:00 Hr		60.7	87.1	68.5	44.9	109.9	78.9
20:00 to 21:00 Hr		42.8	80.9	56.3	48.9	120.3	87.8
21:00 to 22:00 Hr		42.1	83.3	55.8	48.8	97.4	69.6
22:00 to 23:00 Hr		41.4	86.9	68.3	46.2	81.9	63.0
23:00 to 24:00 Hr		40.9	68.5	54.1	49.8	96.5	70.2

Ambient Air Quality monitoring data during Deepawali festival (31.10.2018 to 14.11.2018)- Sambalpur City

Data/ Observations:-

Name Of The Location: Modipada, Sambalpur														
Date	Regulatory parameters							Proposed parameters						
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	Metals in PM ₁₀			Metals/Elements in PM _{2.5}						
					Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al (µg/m ³)	Ba (µg/m ³)	Fe (µg/m ³)	Sr (µg/m ³)
31.10.2018	BDL	20.5	53	38	0.013	3.46	5.38	0.011	ND	2.19	0.059	0.069	0.32	0.001
01.11.2018	5.0	21.9	70	39	0.011	ND	9.82	0.019	2.0	5.73	0.016	0.127	0.22	0.008
02.11.2018	4.1	18.5	60	48	0.005	ND	5.80	0.010	1.73	2.14	0.071	0.067	0.315	0.001
03.11.2018	4.9	18.9	69	32	0.009	5.20	7.40	0.018	2.51	2.18	0.189	0.072	1.155	0.003
04.11.2018	4.5	17.7	96	68	0.017	7.11	10.60	0.017	5.34	2.72	0.215	0.042	12.79	0.001
05.11.2018	4.7	18.7	83	35	0.009	3.42	7.82	0.057	ND	2.84	0.108	0.294	0.402	0.013
06.11.2018	4.8	17.5	72	36	0.009	ND	12.41	0.012	ND	2.3	0.266	0.130	0.700	0.065
07.11.2018	39.1	42.8	287	220	0.174	14.81	27.94	0.542	24.48	3.8	0.804	2.923	5.10	0.264
08.11.2018	16.2	26.6	251	199	0.142	10.64	16.2	0.067	7.06	16.2	0.418	0.139	0.951	0.06
09.11.2018	11.2	22.2	220	149	0.039	8.03	17.40	0.023	4.72	3.5	0.126	0.088	0.811	0.046
10.11.2018	8.0	22.0	187	90	0.031	3.52	13.85	0.010	4.37	5.3	0.133	0.085	0.948	0.004
11.11.2018	7.5	18.7	166	104	0.039	5.12	14.59	0.022	0.232	2.9	0.118	0.103	0.816	0.003
12.11.2018	5.2	23.3	190	146	0.013	ND	13.3	0.036	1.14	3.5	0.154	0.063	0.714	0.012
13.11.2018	5.8	23.6	126	85	0.011	2.27	7.41	0.007	ND	2.5	0.012	0.029	0.289	0.001
14.11.2018	5.8	22.2	118	68	0.006	1.78	5.24	ND	ND	3.17	ND	0.021	0.12	0.001

N.B:- BDL- Below Detectable Limit, SO₂ ≤ 4.0 µg/m³, ND-Not Detected

Interpretation of Ambient Air Quality Data/Results:

Report the compliance of the air pollutants concentration with standard limit for the area. If there is increase or decrease of pollutants concentration in that area note the causes affecting air pollutants concentration

Any other Information pertains to the monitoring activity

