

Noise Level and Ambient Air Quality Monitoring Report undertaken during Festival of Deepawali Year - 2013

Chhattisgarh Environment Conservation Board has monitored Noise Level and Ambient Air Quality in the 07 main cities namely Ambikapur, Bilaspur, Bhilai-Durg, Jagdalpur, Korba, Raipur and Raigarh during and after Deepawali 2013. City wise reports are given below:-

A. Noise Level Monitoring

Ambikapur

Location: Near Regional office, CECB, Bajrang Bhavan, Namnakala, Ambikapur. (Commercial)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	56.6	60.6	56.8	54.3	93.9	67.5
19:00 to 20:00 Hr	57.2	59.0	57.1	64.7	79.0	72.2
20:00 to 21:00 Hr	63.6	75.5	68.1	59.9	91.5	79.2
21:00 to 22:00 Hr	58.5	68.3	62.8	63.2	90.3	77.7
22:00 to 23:00 Hr	56.7	66.4	59.3	51.8	76.6	61.4
23:00 to 24:00 Hr	53.8	55.1	53.9	54.2	60.0	56.7
Location: Near Housing Board Colony, Namnakala, Ambikapur (Residential)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	46.8	55.2	50.7	47.5	65.1	57.0
19:00 to 20:00 Hr	48.4	52.0	48.8	46.4	55.6	54.4
20:00 to 21:00 Hr	58.6	75.1	63.1	59.6	75.2	66.0
21:00 to 22:00 Hr	53.1	70.1	58.5	59.7	81.8	72.2
22:00 to 23:00 Hr	52.3	52.8	51.9	57.1	72.5	68.1
23:00 to 24:00 Hr	52.6	61.9	54.5	52.2	75.2	63.6
Location: Near Raghunath District Hospital, Ambikapur. (Silence/Sensitive)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	39.9	65.4	53.4	40.6	65.3	58.0
19:00 to 20:00 Hr	46.1	73.4	52.7	51.7	58.1	52.4
20:00 to 21:00 Hr	47.3	55.1	49.6	56.6	58.1	55.5
21:00 to 22:00 Hr	42.3	58.1	45.7	60.7	68.9	61.5
22:00 to 23:00 Hr	41.6	55.9	54.5	52.3	66.2	59.3
23:00 to 24:00 Hr	52.6	53.4	52.6	54.2	60.0	56.7

Location: Office building, Vyapar Vihar, Bilaspur	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	Lmin	Lmax	Leq dB (A)	Lmin	Lmax	Leq dB (A)
18:00 to 19:00 Hr	48.5	70.8	60.05	49.8	83.0	68.00
19:00 to 20:00 Hr	48.3	73.4	64.40	62.0	92.0	78.00
20:00 to 21:00 Hr	51.7	69.2	59.35	63.0	83.0	77.40
21:00 to 22:00 Hr	43.4	54.1	48.00	68.2	86.0	78.70
22:00 to 23:00 Hr	38.4	52.3	44.35	66.4	84.8	70.40
23:00 to 24:00 Hr	38.3	49.0	43.10	40.0	86.1	67.80

Location: Traffic Police Thana, Bilaspur	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	Lmin	Lmax	Leq dB (A)	Lmin	Lmax	Leq dB (A)
18:00 to 19:00 Hr	65.3	90.6	71.90	65.8	109.1	86.10
19:00 to 20:00 Hr	65.8	96.3	72.60	65.0	95.3	85.20
20:00 to 21:00 Hr	68.1	92.3	71.95	70.4	114.4	80.40
21:00 to 22:00 Hr	64.6	89.9	75.90	64.3	96.9	85.10
22:00 to 23:00 Hr	60.3	75.6	68.30	62.3	108.4	83.70
23:00 to 24:00 Hr	40.2	60.6	59.60	42.4	104.3	63.87

Bhilai-Durg

Location R.O. CECB , 5/32 Bunglow, Bhilai (Residential)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	L min	L max	L eq dB(A)	L min	L max	L eq dB(A)
18:00 to 19:00 Hr.	-	-	-	49.3	71.8	67.40
19:00 to 20:00 Hr.	-	-	-	60.8	81.4	70.43
20:00 to 21:00 Hr.	38.2	68.2	51.64	-	-	-
21:00 to 22:00 Hr.	-	-	-	-	-	-
22:00 to 23:00 Hr.	-	-	-	-	-	-
23:00 to 24:00 Hr.	-	-	-	42.5	85.1	57.01

Location City Kotwali, Durg (Commercial)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
Time duration	L min	L max	L eq dB(A)	L min	L max	L eq dB(A)
18:00 to 19:00 Hr.	-	-	-	-	-	-
19:00 to 20:00 Hr.	-	-	-	-	-	-
20:00 to 21:00 Hr.	-	-	-	60.4	101.4	74.34
21:00 to 22:00 Hr.	54.2	85.2	67.34	61.5	100.4	75.17
22:00 to 23:00 Hr.	-	-	-	57.4	98.6	71.76
23:00 to 24:00 Hr.	-	-	-	-	-	-

Jagdalpur

Location : Housing Board . Colony Dharampura Jagdalpur (Residential area)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	time duration	Lmin	Lmax	Leq dB (A)	Lmin	Lmax
06.00 PM to 06.10 PM	42.3	86.1	53.7	53.6	95.3	76.1
07.00 PM to 07.10 PM	48.1	72.9	65.3	48.7	104.8	96.8
08.00 PM to 08.10 PM	46.2	68.9	61.7	52.1	113.7	91.8
09.00 PM to 09.10 PM	45.1	78.6	64.7	51.9	128.7	93.7
10.00 PM to 10.10 PM	43.8	75.9	58.4	49.1	109.3	91.4
11.00 PM to 11.10 PM	42.6	56.3	48.8	43.5	103.8	98.2

Location : Sanjay Market Chowk Jagdalpur (Commercial area)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	time duration	Lmin	Lmax	Leq dB (A)	Lmin	Lmax
06.20 PM to 06.30 PM	60.8	93.5	68.1	73.8	126.4	98.5
07.20 PM to 07.30 PM	58.4	96.1	79.6	68.4	109.6	93.7
08.20 PM to 08.30 PM	61.7	102.7	96.3	62.7	127.5	97.4
09.20 PM to 09.30 PM	57.8	99.1	94.2	78.2	139.1	103.6
10.20 PM to 10.30 PM	52.6	94.5	84.6	58.7	124.9	98.7
11.20 PM to 11.30 PM	49.7	86.3	79.4	56.9	98.3	84.9

Location : Maharani Hospital Parisar Jagdalpur (Silence area)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	time duration	Lmin	Lmax	Leq dB (A)	Lmin	Lmax
06.40 PM to 06.50 PM	46.2	58.4	53.6	57.2	106.8	61.4
07.40 PM to 07.50 PM	43.1	61.7	47.4	49.7	104.9	89.1
08.40 PM to 08.50 PM	42.6	73.8	48.9	48.3	98.4	87.6
09.40 PM to 09.50 PM	48.9	86.3	51.2	46.9	118.5	92.7
10.40 PM to 10.50 PM	48.1	84.7	53.7	51.4	107.8	81.5
11.50 PM to 12.00 PM	42.5	76.5	47.3	42.9	98.6	73.3

Korba

Location: T.P.Nagar Korba, Commercial Zone	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	Time Duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax
18:00 to 19:00 Hr	67.10	73.0	70.05	68.40	87.20	77.80
19:00 to 20:00 Hr	71.80	75.20	73.50	73.60	88.60	81.10
20:00 to 21:00 Hr	67.80	70.0	69.05	79.40	104.60	92.00
21:00 to 22:00 Hr	76.60	80.60	78.60	80.20	102.40	91.30
22:00 to 23:00 Hr	73.40	78.80	76.10	68.60	98.40	83.50
23:00 to 24:00 Hr	67.50	70.80	69.15	69.30	90.50	79.90

Location: Residential Zone Darri Jamanipali Korba	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	Time Duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax
18:00 to 19:00 Hr	50.50	54.20	52.35	57.10	64.40	60.76
19:00 to 20:00 Hr	58.10	61.40	59.75	69.20	80.40	74.80
20:00 to 21:00 Hr	60.20	66.50	63.35	74.30	90.10	82.20
21:00 to 22:00 Hr	56.30	60.10	58.20	76.20	92.80	84.50
22:00 to 23:00 Hr	50.40	54.0	52.20	72.10	94.10	83.10
23:00 to 24:00 Hr	40.40	48.20	44.30	62.10	81.00	71.55

Location: Residential Zone Near Tehsil Office Rampur Korba	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	Time Duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax
18:00 to 19:00 Hr	58.20	62.40	60.30	60.70	65.20	62.95
19:00 to 20:00 Hr	61.40	63.60	62.50	64.10	67.20	65.65
20:00 to 21:00 Hr	57.10	60.20	58.65	66.20	81.10	73.65
21:00 to 22:00 Hr	50.60	57.00	53.80	79.40	90.50	84.95
22:00 to 23:00 Hr	54.00	59.00	56.50	74.00	87.50	80.75
23:00 to 24:00 Hr	43.50	51.30	47.40	56.40	70.40	63.40

Raipur

Location : Near AIIMS Hospital, Raipur (Mix Zone)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	L min	L max	L eq dB (A)	L min	L max	L eq dB (A)
Time duration						
18:00 to 19:00 Hr	40.0	68.0	52.0	43.3	70.9	63.4
19:00 to 20:00 Hr	42.0	69.0	53.0	46.4	95.2	68.4
20:00 to 21:00 Hr	43.4	70.0	63.2	60.5	115.5	93.8
21:00 to 22:00 Hr	44.4	71.0	65.0	60.5	113.3	77.0
22:00 to 23:00 Hr	45.0	70.0	63.0	58.0	111.7	63.7
23:00 to 24:00 Hr	43.0	67.0	58.0	58.4	109.9	63.4

Location : Shankar Nagar, Raipur (Residential Zone)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	L min	L max	L eq dB (A)	L min	L max	L eq dB (A)
Time duration						
18:00 to 19:00 Hr	42.1	66.0	53.1	45.4	79.9	58.4
19:00 to 20:00 Hr	44.2	67.3	60.2	49.8	109.9	65.7
20:00 to 21:00 Hr	44.3	68.9	63.3	61.1	111.2	78.2
21:00 to 22:00 Hr	46.1	70.1	65.2	61.5	113.3	90.0
22:00 to 23:00 Hr	45.3	72.1	67.1	62.5	115.7	95.0
23:00 to 24:00 Hr	43.2	68.3	60.2	58.0	110.3	66.0

Location : Collectorate, Raipur (Commercial Zone)	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	L min	L max	L eq dB (A)	L min	L max	L eq dB (A)
Time duration						
18:00 to 19:00 Hr	52.1	66.1	61.1	56.0	103.1	92.0
19:00 to 20:00 Hr	54.2	68.2	63.3	67.0	110.0	95.0
20:00 to 21:00 Hr	56.1	70.1	66.5	67.3	115.3	98.0
21:00 to 22:00 Hr	58.1	75.2	68.1	68.1	117.6	97.0
22:00 to 23:00 Hr	50.2	68.1	66.9	68.4	115.1	94.1
23:00 to 24:00 Hr	50.1	67.1	63.8	65.3	113.6	89.2

Raigarh

Location : R.O. CECB, Raigarh	Normal Day 29.10.2013			Deepawali Day 03.11.2013		
	Lmin	Lmax	Leq dB (A)	Lmin	Lmax	Leq dB (A)
Time duration						
18:00 to 19:00 Hr	34.5	45.2	43.6	43.8	80.6	64.2
19:00 to 20:00 Hr	40.4	58.2	53.9	49.2	89.8	81.5
20:00 to 21:00 Hr	42.1	68.5	54.4	56.5	108.7	88.3
21:00 to 22:00 Hr	46.5	66.2	52.6	64.9	112.3	90.7
22:00 to 23:00 Hr	42.7	60.9	48.2	62.3	110.8	83.4
23:00 to 24:00 Hr	36.8	57.7	42.1	59.4	94.5	71.3

Remark - Prescribed Limit (in decibel)

Residential Zone		Commercial Zone	
Day (06 AM-10 PM) dB(A)	Night (10 PM-06 AM) dB(A)	Day (06 AM-10 PM) dB(A)	Night (10 PM-06 AM) dB(A)
55	45	65	55

B. Ambient Air Monitoring

Ambikapur

Parameter	SO ₂ (µg/m ³)		NO ₂ (µg/m ³)		SPM (µg/m ³)	
	Pre-	Deepawali	Pre-	Deepawali	Pre-	Deepawali
Monitoring Day	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Date :-	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Location :-						
Near Regionanl Office, CECB, Bajrang Bhawan, Ambikapur	8.0	10.0	12.0	14.0	605.0	776.0
Near Housing Board Colony, Namnakala, Ambikapur	6.0	9.0	11.0	13.0	169.0	244.0

Bilaspur

Parameter	SO ₂ (µg/m ³)		NO ₂ (µg/m ³)		PM ₁₀ (µg/m ³)	
	Pre -	Deepawali	Pre -	Deepawali	Pre -	Deepawali
Date →	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Location ↓	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Office building, Vyapar Vihar, Bilaspur	6.695	9.768	18.18	23.468	98.17	271.18
Traffic Police Thana, Bilaspur	7.83	13.745	21.47	28.398	235.41	326.56

Bhilai-Durg

Parameter	SO ₂ (µg/m ³)		NO ₂ (µg/m ³)		SPM (µg/m ³)	
	Pre -	Deepawali	Pre -	Deepawali	Pre -	Deepawali
Date →	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Location ↓	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
R.O. CECB , 5/32 Bunglow Bhilai. (Residential)	12	35	20	25	221.43	385.39
City Kotwali, Durg (Commercial)	20	36	21	26	326.17	550.71

Jagdalpur

Parameter	So ₂ (ug/m ³)		No ₂ (ug/m ³)		SPM/PM ₁₀ (ug/m ³)	
	Pre-	Deepawali	Pre-	Deepawali	Pre-	Deepawali
Date →	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Location ↓	29.10.2013	03.11.2013	29.10.2013	03.11.2013	29.10.2013	03.11.2013
Housing Board Colony Dharampura Jagdalpur (Residential area)	22.185	35.51	25.64	45.53	180.84	337.59
Maharani Hospital Parisar Jagdalpur (Silence area)	17.49	25.82	19.33	35.70	147.78	200.07

Korba

Parameter	SO ₂ ($\mu\text{g}/\text{m}^3$)		NO ₂ ($\mu\text{g}/\text{m}^3$)		SPM ($\mu\text{g}/\text{m}^3$)		
	Date → Location ↓	Pre – 29.10.2013	Deepawali 03.11.2013	Pre – 29.10.2013	Deepawali 03.11.2013	Pre – 29.10.2013	Deepawali 03.11.2013
T.P. Nagar, Korba		13.33	19.54	20.48	26.76	125.51	224.89
Darri, Jamnipali, Korba		14.29	18.20	16.25	23.60	58.76	152.13
Near Tehsil Office, Rampur Korba		11.58	16.12	19.37	20.28	82.15	175.17

Raipur

Parameter	SO ₂ ($\mu\text{g}/\text{m}^3$)		NO ₂ ($\mu\text{g}/\text{m}^3$)		(PM ₁₀) ($\mu\text{g}/\text{m}^3$)		
	Date → Location ↓	Pre 29.10.2013	Deepawali 03.11.2013	Pre 29.10.2013	Deepawali 03.11.2013	Pre 29.10.2013	Deepawali 03.11.2013
Near AIIMS Hospital, Raipur		17	33	22	54	204	326
Shankar Nagar, Raipur		16	31	19	63	217	323
Collectorate, Raipur (On Line)		15	39	25	74	272	466

Raigarh

Parameter	SO ₂ ($\mu\text{g}/\text{m}^3$)		NO ₂ ($\mu\text{g}/\text{m}^3$)		SPM ($\mu\text{g}/\text{m}^3$)		
	Date → Location ↓	Pre – 29.10.2013	Deepawali 03.11.2013	Pre – 29.10.2013	Deepawali 03.11.2013	Pre – 29.10.2013	Deepawali 03.11.2013
Ro, CECB, Raigarh		12.58	26.00	15.74	29.78	283.91	447.26
Jmj Morning Hospital, Lochan Nagar Raigarh		11.77	25.92	14.83	28.36	231.24	388.67

Remark - Prescribed Limit

National Ambient Air Quality Standards	80	80	100
All Values of concentrations are in $\mu\text{g}/\text{m}^3$ of air			