

Formate Report : Deepawali Monitoring 2013

City : Raipur

- Latitude & Longitude - Raipur District is Situated between 21° 14' N to 22° 33' N latitude and 81° 38' E to 82° 6' E longitude.
- Climate/Meteorology - The climate of Raipur is warm. The mean maximum temperature in May is 46.4° C. Relative Humidity is generally over 75% . Rainfall observations indicate that annual rainfall in the area is around 1400 mm.
- Population - Population of Raipur district according 2001 16,36,301.
Urban population -8,23,276
Rural population -8,13,025
- Major land use - Industrial, Commercial & Residential.
- Monitoring Location - A. Near AIIMS Hospital, Tatibandh, Raipur
B. Shankar Nagar, Raipur
C. Collectorate, Raipur (On Line)
- Map Showing all monitoring location of the City - Enclosed.
- Description of monitoring site : Commercial & Residential (Mix Zone).
- Activities around the Monitoring location/sources of noise pollution : Vehicular Activities.

Data/observation

Noise Level during Deepawali festival, 2013 :

Location : A Near AIIMS Hospital, Raipur (Mix Zone)		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	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	

Noise Level during Deepawali festival, 2013 :

Location : B Shankar Nagar, Raipur (Residential Zone)		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	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	

Noise Level during Deepawali festival, 2013 :

Location : C Collectorate, Raipur (Commercial Zone)	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	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

Remark - Prescribed Limit (in decibel)

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

Interpretation of Noise Data/Results

- In normal day noise level at 03 locations are found above the prescribed Standard limits due to Road traffic.
- During Deepawali day noise level at 03 locations are found high the prescribed standard limit due to fire crackers and vehicular activities.

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Ambient Air Monitoring during Deepawali festival, 2013 :

Parameter	Ambient Air Quality during Deepawali 2013								
	SO ₂			NO ₂			PM ₁₀		
Date → Location ↓	Pre 29.10.13	Deepawali 03.11.13	Post 04.11.13	Pre 29.10.13	Deepawali 03.11.13	Post 04.11.13	Pre 29.10.13	Deepawali 03.11.13	Post 04.11.13
(A) Near	17	33	21	22	54	35	204	326	264



Interpretation of Ambient Air Quality Data/Results

Sulphur dioxide (SO₂)

Sulphur dioxide concentration on Deepavali day 2013 increased at three stations as Compared to Normal day. During Deepavali day SO₂ ranged between 31.0 and 39.0 µg/m³ as compared to 15.0 and 17.0 during Normal day. SO₂ levels have been found within the prescribed standards of 80 µg/m³ at both location.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide concentration on Deepavali day in 2013 increased at three locations as compared to Normal day. NO₂ values during Deepavali day ranged between 54.0 and 74.0 µg/m³ as compared to 19.0 and 25 µg/m³ during Normal day. The NO₂ levels are within the prescribed standards of 80 µg/m³ at both locations.

Particulate Matter (PM₁₀)

PM₁₀ levels increased at three locations on Deepavali day 2013 as Compared to Normal day. PM₁₀ values during Deepavali day ranged between 323.0 and 466.0 µg/m³ as Compared to 204.0 and 272.0 µg/m³ during normal day. The PM₁₀ have been found above the prescribed standard of 100 µg/m³ at both locations due to road traffic and fire crackers.

John
JK

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