



AMBIENT AIR QUALITY AND NOISE LEVELS

Deepawali Festival Monitoring Report 2017



Central Pollution Control Board

Ministry of Environment, Forest & Climate Change

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CENTRAL POLLUTION CONTROL BOARD
Ministry of Environment, Forest & Climate Change
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Foreword

Noise and Air pollution due to bursting of fire crackers during Deepawali is well known. It is, therefore, necessary to conduct ambient noise and air quality monitoring during the festival to understand level of pollution and to correlate it with the effectiveness of pollution abatement measures. Like every year, Central Pollution Control Board, State Pollution Control Boards and Pollution Control Committees carried out extensive ambient noise and air quality monitoring across the country during Deepawali festival on October 19, 2017.

This report is a compilation of ambient noise (345 locations in 129 cities) and ambient air quality (305 locations in 125 cities) data covering 27 States and 04 UTs in the country. The data of previous year have also been incorporated for comparison. As compared to last year there was decrease in Noise level at 132 locations in 2017. Also, as compared to last year, SO₂, NO₂, and PM₁₀ levels were lesser in concentration at 70, 91 and 86 locations respectively. While, such results are encouraging, we require much larger effort at spreading awareness among public in general.

I hope that the SPCBs/ PCCs and other concerned authorities will use this document to disseminate information among all section of society to persuade them to celebrate Deepawali festival in more environment friendly ways.


(S.P.S. Parihar)



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Monitoring Network and Findings

With the view to maintain uniformity in monitoring across a country, the CPCB has prepared protocol for monitoring of ambient noise and circulated it to all SPCBs, PCCs, in the country. A total of 27 States and 04 UTs, consisting of 305 locations in 125 cities ambient air quality monitoring and 345 locations in 129 cities noise monitoring across the nation. The monitoring network is given in the table below:

Table –I Monitoring locations covered in all the states in report 2017					
S. No.	State	AAQM		Noise	
		City	Locations	City	Locations
1	Andhra Pradesh	10	38	10	36
2	Andaman & Nicobar(UT)	01	01	01	05
3	Arunachal Pradesh	02	02	02	02
4	Bihar	01	01	01	05
5	Chhattisgarh	10	23	10	17
6	DD & DNH (UT)	01	02	01	01
7	Delhi (UT)	01	04	01	06
8	Gujarat	01	03	01	03
9	Himachal Pradesh	10	10	10	13
10	Jammu & Kashmir	01	02	01	04
11	Goa	05	05	05	04
12	Karnataka	01	02	01	02
13	Kerala	01	02	01	03
14	Madhya Pradesh	05	18	04	11
15	Meghalaya	01	03	01	02
16	Nagaland	01	02	01	03
17	Odisha	04	11	04	15
18	Punjab	04	15	10	30
					Contd.

19	Puducherry (UT)	01	02	01	01
20	Rajasthan	08	38	14	32
21	Sikkim	08	08	01	01
22	Tamil Nadu	12	36	12	27
23	Telangana	08	30	09	33
24	Tripura	05	05	04	27
25	Uttar Pradesh	21	35	21	48
26	Uttarakhand	01	03	01	12
27	West Bengal	01	04	01	02
Total		125	305	129	345

ACKNOWLEDGEMENT

Central Pollution Control Board acknowledges the effort of all its Regional Directorates of CPCB, State Pollution Control Boards, Pollution Control Committees and their officials associated with the work for monitoring of noise and air pollution levels on Deepawali festival as per the protocol prescribed by CPCB. It would not have been possible to compile and complete this report on ambient noise and ambient air quality without their sincere support and efforts.

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Ambient Air Quality and Noise Levels on Deepawali festival

1. Introduction

India is a diverse country having the Himalayas in the North, desert in west, forests in the north east, plains in the south, rivers all over, beaches in the east and west and different festivals are celebrated and cherished by people in the north, south, east and west alike. There are numerous types of festivals celebrated in the world. Some of the festivals have religious origins; others involve seasonal change or have some cultural significance. In every month, many festivals come and fill colours in our life. Every festival plays an important part in the life of different people from different communities of India.

Diwali or Deepawali is the biggest and brightest Hindu festival which is embraced throughout the country regardless of faith by all religious denominations of Jains, Buddhists, Sikhs and others. Deepawali is usually celebrated between mid-October to mid-November and it may last up to five days. Deepawali is popularly known as the “festival of lights” bringing joy to the young and old alike. Crackers also hold a fascination for all generations. Crackers of varied colours and sounds fill the skies heralding India’s favourite festival; however these –crackers spoil our environment by causing noise and air pollution and also affect our health. The smoke of fireworks consists mainly of fine toxic dusts and chemicals that easily enter the lungs and causing harmful effects for those already sick as well as for the healthy. Therefore, law has been made to ban crackers that make a noise of more than 125 decibels at four meters distance from the point of bursting.

Adverse Effects of Bursting Crackers on Health

- Apart from the mild burns and accidents the children also breathe the toxic air and suffering from nasal irritation and throat congestion.
- The smoke also irritates the eyes causing tears and redness. Sometimes, the sound makes the ears go dumb and also cause deafness.
- Bursting crackers may increase blood pressure and aggravate heart disease. Nausea, headache and giddiness are common effects of bursting crackers.
- Lung infections such as coughing, sneezing. Respiratory disorders like asthma, wheezing often get severe during Deepawali festival. The pollution hazards such as the toxic smoke causes a lot of discomfort in breathing.
- The poisonous gas can also affect pregnant women adversely. It may also affect the mentally ill patients leading to depression, fear and stress.

The increasing ambient noise levels in public places from various sources, inter-alia, industrial activity, construction activity, fire crackers, sound producing instruments, generator sets, loud speakers, public address systems, music systems, vehicular horns and other mechanical devices have deleterious effects on human health and the psychological well

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being of the people; it is considered necessary to regulate and control noise producing and generating sources with the objective of maintaining the ambient standards in respect of noise. Now, therefore, in exercise of the powers conferred by clause (ii) of sub-section (2) of section 3, sub-section (1) and clause (b) of sub-section (2) of section 6 and section 25 of the Environment (Protection) Act, 1986 (29 of 1986) read with rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following rules for the regulation and control of noise producing and generating sources, viz., The Noise Pollution (Regulation and Control) Rules, 2000. The standards are given in **Annexure–I**.

Ambient Air Quality Standards

The primary aim of the ambient air quality standards is to provide a basis for protecting public health from adverse effects of air pollution and for eliminating, or reducing to a minimum, those contaminants of air that are known or likely to be hazardous to human health and well being.

Ideally, air quality standards should represent concentrations of chemical compounds in air that would not pose any health hazard to the human population. However, the realistic assessment of human health hazards

necessitates a distinction between absolute safety and acceptable risk. To aim at achieving absolute safety, one would need a detailed knowledge of dose-response relationships in individuals in relation to all sources of exposure, the types of toxic effect elicited by specific pollutants or their mixtures and existing health status of human population. However, such comprehensive and conclusive data on environmental contaminants are not always available, certainly not for all types of pollutants. Very often, the relevant data are scarce and the quantitative relationship uncertain; scientific judgments and consensus, therefore, play an important role.

The ambient air quality objectives / standards are pre-requisite for developing program for effective management of ambient air quality and to reduce the damaging effects of air pollution. In exercise of the power conferred by Sub – section (2) (h) of section 16 of the Air (Prevention & Control of Pollution) Act, 1981 (Act No. 14 of 1981) CPCB has formulated the ambient air quality standards for 12 parameters, which also describes time weighted average, areas (land use) and methods of measurement in November 2009. For details, refer to Gazette Notification as placed at **Annexure– II**.

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2. Objectives & Methodology

- To determine present Air Quality status and trends during Deepawali festival;
- To monitor the ambient noise levels for normal and Deepawali day from 18:00 Hrs to 24:00 Hrs at various locations in different cities;
- To determine the trends and variations of noise levels at various areas of the cities in different monitoring locations.

Ambient Air Quality Monitoring

The ambient air quality monitoring was carried out for minimum 24 hours as per the NAMP format 06:00 Hours to 06:00 Hours. The national standard is prescribed for 24 hours. The complete protocol for Particulate Matter (Size less than 10 μ m) or PM₁₀ and gaseous pollutants (SO₂ & NO₂) as well methodology is given at **Annexure III, IV and V**.

Ambient Noise Level Monitoring

Noise measurements was carried out by using a Type 1 integrating sound level meter with free-field microphone which meets the accuracy

of noise measurement as per IEC 804 (BS 6698) Grade I or ANSI Type I or equivalent IEC 61672-1(2002-05) Class-I to see the overall impact of bursting crackers on Ambient Air Environment.

Monitoring frequency/Sampling Frequency: Noise Monitoring was conducted from 18.00 Hrs to 24.00 Hrs continuously at each location with sampling frequency of 1 second.

Monitoring Parameters: Measurement of Leq, L₁₀, L₉₀, L₅₀, L_{max}, L_{min} and LAI at all locations during monitoring. Complete Noise monitoring protocol and data sheet is enclosed at Annexure VI and VII.

3. Brief about the monitoring

In order to assess the problem of rising air and noise pollution produced by firework during Deepawali festival, Central Pollution Control Board along with all its subordinate offices & SPCBs /UTs had conducted Ambient Noise and Air Quality Monitoring on Pre-Deepawali Day (12th October 2017) and Deepawali Day (19th October 2017) at Delhi, Agra, Lucknow, Kolkata, Bangaluru, Bhopal, Shillong and Vadodara. These monitoring was carried out at various places covering various zones (viz. Commercial, Residential & Silence). All SPCB's/PCCs were also requested to conduct the similar monitoring at their state HQs & cities.

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Andhra Pradesh

Observations – In this State, ambient air quality monitoring carried out thirty-eight locations and Noise monitoring carried out at thirty- six locations in ten cities. The pre-depawali day, PM₁₀ level ranged between 18 and 93µg/m³, while same on the festival day ranged between 63 and 291µg/m³. The maximum PM₁₀ value of 291µg/m³ was reported at Seethammadhara (R), Visakhapatnam on

festival day. The pre- deepawali day noise level ranged between 55 and 102 Leq.dB(A), while same on the festival day ranged between 55 and 99 Leq.dB(A). The maximum noise level value of 102 Leq.dB(A) was reported at Benz Circle (C), Vijayawada on pre- deepawali day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2015 - 2017 in Andhra Pradesh

S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Kurnool	Krishna Nagar (R)	09	22	126	BDL	13	102	06↑	16↑	26↓
2.		Old Town (R)	08	20	105	05	11	88	BDL	12↑	73↓
3.		Raj Vihar Center (C)	-	-	-	08	20	112	05↓	35↑	38↓
4.		V.R. Colony (C)	-	-	-	-	-	-	05	17	18
5.		Kulluru (I)	-	-	-	-	-	-	05	18	45
6.	Anantpur	Kamala Nagar	-	-	-	-	-	-	05	17	56
7.		Ramnagar	-	-	-	-	-	-	05	21	47
8.		Industrial Estate (I)	-	-	-	-	-	-	05	11	26
9.		Cancer Hospital (S)	-	-	-	-	-	-	05	18	24
10.	Tiru-pati	Municipal Office (C)	-	-	-	08	20	99	05↓	12↓	72↓
11.		NT Road (R)	-	-	-	08	13	76	05↓	12↓	44↓
12.	Visakhapatnam	Mindi (R)	28	33	126	09	29	65	14↑	37↑	71↑
13.		Industrial Estate (I)	23	39	124	10	17	40	10=	25↑	93↑
14.		Police Barracks (R)	53	69	178	11	20	95	14↑	31↑	82↓
15.		ESI (S)	22	24	84	08	19	70	11↑	25↑	46↓
16.		Seethammadhara (R)	28	37	83	08	18	72	12↑	30↑	46↓
17.		Gnanapuram (R)	54	60	137	11	27	94	10↓	22↓	65↓
18.		Pedagantyada (I)	16	25	88	07	18	99	12↑	26↑	67↓
19.		Ramky (I)	13	24	85	09	19	46	09=	18↓	45↓

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Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-I Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Pre- Deepawali Day 2015 - 2017 in Andhra Pradesh											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
20.	Kakinada	Ramanayyapeta	32	48	114	09	20	57	08↓	16↓	59↑
21.		Suryarao Pet.	-	-	-	-	-	-	10	25	58
22.		Mepma Building, Salipeta	-	-	-	-	-	-	06	16	62
23.		APPM,Rajamahendravaram	-	-	-	-	-	-	09	19	51
24.	Eluru	ASRAM Diagnostics	08	47	76	05	25	83	05=	25=	67↓
25.		Dist. H.Q. Hospital	-	-	-	-	-	-	05	25	57
26.	Vizianagaram	Bobbli Growth Center	24	32	180	08	11	91	08 =	19↑	66↓
27.		Pydibheemavaram, Srikakulam	36	49	113	11	20	90	09↓	23↑	65↓
28.		Kaspa High school	-	-	-	-	-	-	-	-	-
29.		APIIC ofic. (I)	-	-	-	-	-	-	09	24	61
30.		Dist. Cooprative offic.	-	-	-	-	-	-	08	26	57
31.		Municipal Cooperation	-	-	-	-	-	-	09	21	68
32.	Vijayawada	Autonagar (R)	08	48	106	06	34	78	06 =	26↓	87↑
33.		Benz Circle (C)	09	51	95	06	32	81	05↓	24↓	86↑
34.		Venkateswara Street (R)	07	42	145	-	-	-	06	26	65
35.	Guntur	Chandramouli Nagar (R)	09	53	98	05	29	70	06↑	27↓	62↓
36.		Saibab Road (R)	08	44	85	05	30	86	06↑	31↑	70↓
37.	Nellore	Chandramouli Nagar (R)	-	-	-	05	27	67	05 =	26↓	69↑
38.		Near Narthaki Theatre (C)	-	-	-	05	22	72	05 =	25↑	76↑

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Ambient Air Quality and Noise Levels on Deepawali festival

Table- II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2015 - 2017 in Andhra Pradesh											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Kurnool	Krishna Nagar	09	22	126	12	20	110	06↓	24↑	126↑
2.		Old Town	08	17	105	08	13	92	10↑	19↑	172↑
3.		Raj Vihar Center	-	-	-	09	26	145	08↓	41↑	160↑
4.		V.R. Colony (C)	-	-	-	-	-	-	07	19	107
5.		Kulluru (I)	-	-	-	-	-	-	06	19	117
6.	Anantpur	Kamala Nagar	-	-	-	-	-	-	06	31	153
7.		Ramnagar	-	-	-	-	-	-	06	25	161
8.		Industrial Estate (I)	-	-	-	-	-	-	05	16	83
9.		Cancer Hospital (S)	-	-	-	-	-	-	05	24	113
10.	Tiru-pati	Municipal Office	-	-	-	07	20	154	08↑	14↓	91↓
11.		NT Road	-	-	-	08	17	158	08=	13↓	84↓
12.	Visakhapatnam	Mindi	28	33	126	29	37	130	29=	25↓	159↑
13.		Industrial Estate	23	39	124	24	41	127	24=	31↓	147↑
14.		Police Barracks	53	69	178	41	54	105	50↑	32↓	191↑
15.		ESI	22	24	84	19	28	89	35↑	40↑	150↑
16.		Seethammadhara	28	37	83	38	38	125	40↑	27↓	291↑
17.		Gnanapuram	54	60	137	49	58	109	61↑	32↓	272↑
18.		Pedagantyada	16	25	88	18	31	91	25↑	16↓	175↑
19.		Ramky	13	24	85	15	25	56	32↑	23↓	93↑
20.	Kakinada	Ramanayyapeta	32	48	114	22	33	82	18↓	32↓	209↑
21.		Suryarao Pet.	-	-	-	-	-	-	16	31	120
22.		Mepma Building, Salipeta	-	-	-	-	-	-	16	24	154
23.		APPM, Rajamahendravaram	-	-	-	-	-	-	13	25	144
24.	Eluru	ASRAM Diagnostics	08	47	76	05	36	96	06↑	28↓	98↑
25.		Dist. H.Qrs. Hospital	-	-	-	-	-	-	06	32	63

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Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table- II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2015 - 2017 in Andhra Pradesh											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
26.	Viziya nagaram	Bobbli Growth Centre	24	32	180	24	35	156	10↓	15↓	92↓
27.		Pydibheemavaram, Srikakulam	36	49	113	31	41	113	08↓	11↓	232↑
28.		Kaspa High school	-	-	-	-	-	-	14	16	103
29.		APIIC ofic. (I)	-	-	-	-	-	-	10	19	93
30.		Dist. Cooperative offic.	-	-	-	-	-	-	08	12	105
31.		Municipal Cooperation	-	-	-	-	-	-	13	20	172
32.	Vijaya wada	Autonagar	08	48	106	08	46	91	06↓	14↓	134↑
33.		Benz Circle	09	51	95	08	48	98	06↓	30↓	109↑
34.		Venkateswara Street	07	42	145	-	-	-	06	36	115
35.	Gun tur	Chandramouli Nagar	09	53	98	05	40	156	06↑	29↓	120↓
36.		Saibab Road	08	44	85	07	40	135	06↓	30↓	146↑
37.	Nellore	Chandramouli Nagar	-	-	-	07	32	96	06↓	31↓	108↑
38.		Near Narthaki Theatre	-	-	-	07	32	84	06↓	28↓	116↑

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015 - 2017 in Andhra Pradesh					
S.No.	Cities	Locations	2015	2016	2017
1.	Kakinada	Ramanayyapeta (R)	-	-	65
2.		Gram Panchayati Building, Suryarao Pet.	-	-	72
3.		Mepma Building, Salipeta	-	-	62
4.		Rajamahendravaram.	-	-	57
5.	Viziyanagaram	Pradeepnagar (R)	67	66	69↑
6.		Kota Junction (C)	82	79	71↓
7.		Mayruri Junction	79	80	76↓
8.	Vishakapatnam	Pandu Rangapuram (R)	63	66	71↑
9.		King George Hospital (S)	63	70	75↑
10.		Kurpam Market (C)	85	72	74↑
11.		Jagadambha Junction (C)	80	75	73↓
12.		St. Anthoni School (S)	63	68	67↓
13.		RTC Complex (C)	82	72	75↑
14.	Vijayawada	Autonagar (I)	73	68	86↑
15.		Benz Circle (C)	72	69	102↑
16.		Venkateswara Street (R)	69	-	56
17.	Guntur	Laxminagar (R)	68	60	63↑
18.		Brundavan Gardens (S)	64	56	55↓
19.		Brodipet (C)	72	70	68↓
20.	Nellore	Near Narthaki Theatre (C)	81	74	74=
21.		Chandramouli Nagar (R)	66	61	64↑
22.	Kurnool	Old Town (R)	69	64	65↑
23.		Krishna Nagar (C)	71	68	67↓
24.		Montessori School (R)	65	56	59↑
25.	Ananthapur	Kamala Nagar (R)	-	-	61

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Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table III					
26.	Tirupati	NT Road (R)	65	76	78↑
27.		Gandhi (C)	78	87	70↓
28.		Balaji Colony (R)	69	60	90↑
29.		Campus School (S)	76	72	81↑
30.		SV University (S)	79	47	65↑
31.		Municipal Office (C)	88	76	71↓
32.	Eluru	Ashok Nagar	52	58	63↑
33.		District Govt. Hospital (S)	54	64	62↓
34.		RR Pet	72	64	65↑
35.		Fire Station Centre	-	-	76
36.		Ashram Diagnostics	-	-	88

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 - 2017 in Andhra Pradesh					
S.No.	Cities	Locations	2015	2016	2017
1.	Kakinada	Ramanayyapeta (R)	-	-	65
2.		Gram Panchayati Building, Suryarao Pet.	-	-	72
3.		Mepma Building, Salipeta	-	-	62
4.		Rajamahendravaram.	-	-	57
5.	Vizianagaram	Pradeepnagar (R)	92	100	93↓
6.		Kota Junction (C)	106	91	92↑
7.		Mayruri Junction	103	88	92↑
8.	Vishakapatnam	Pandu Rangapuram (R)	81	80	93↑
9.		King George Hospital (S)	74	75	66↓
10.		Kurpam Market (C)	95	89	79↓
11.		Jagadambha Junction (C)	79	82	82=
12.		St. Anthoni School (S)	78	84	74↓
13.		RTC Complex (C)	79	32	70↑

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-IV					
14.	Vijayawada	Autonagar (I)	84	74	99↑
15.		Benz Circle (C)	87	76	92↑
16.		Venkateswara Street (R)	73	-	62
17.	Guntur	Laxminagar (R)	84	63	76↑
18.		Brundavan Gardens (S)	74	62	66↑
19.		Brodipet (C)	84	80	81↑
20.	Nellore	Near Narthaki Theatre (C)	82	80	80=
21.		Chandramouli Nagar (R)	80	74	79↑
22.	Kurnool	Old Town (R)	78	75	73↓
23.		Krishna Nagar (C)	81	76	76=
24.		Montessori School (R)	77	67	67=
25.	Ananthapur	Kamala Nagar (R)	-	-	61
26.	Tirupati	NT Road (R)	-	118	90↓
27.		Gandhi (C)	-	108	90↓
28.		Balaji Colony (R)	-	84	97↑
29.		Campus School (S)	-	89	55↓
30.		SV University (S)	-	64	76↑
31.		Municipal Office (C)	-	63	81↑
32.	Eluru	Ashok Nagar	80	85	79↓
33.		District Govt. Hospital (S)	66	69	79↑
34.		RR Pet	78	73	75↑
35.		Fire Station Center	-	-	71
36.		Ashram Dignostics	-	-	91

Ambient Air Quality and Noise Levels on Deepawali festival

Andaman & Nicobar

Observations – In this State, ambient air quality monitoring carried out in one city at one location and noise monitoring carried out in the same city at five locations. The pre- deepawali day, PM₁₀ level was 51 µg/m³, while same on the

festival day level was 57 µg/m³. The pre- deepawali day noise level ranged between 44 and 63 Leq.dB(A), while same on the festival day ranged between 48 and 70Leq.dB(A). The maximum noise level value of 70 Leq.dB(A) was reported at Aberdeen Bazaar (C) on the festival day.

S.No.	City	Location	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Port Blair	Aberdeen Bazaar	29	37	32	15	09	48	31	39	64	15↓	10↓	51↓

S.No.	City	Location	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Port Blair	Aberdeen Bazaar	36	30	33	31	17	52	40	40	134	21↓	16↓	57↓

S.No.	City	Locations	2014	2015	2016	2017
1.	Port Blair	Aberdeen Bazaar (C)	66	62	65	61↓
2.		G.B. Pant Hospital (S)	44	45	45	44↓
3.		Haddo(C)	62	61	61	59↓
4.		Dairy Farm(C)	63	63	62	63↑
5.		Shadipur(C)	54	57	57	55↓

S.No.	City	Locations	2014	2015	2016	2017
1.	Port Blair	Aberdeen Bazaar (C)	82	66	68	70↑
2.		G.B. Pant Hospital (S)	77	50	50	48↓
3.		Haddo(C)	82	67	67	69↑
4.		Dairy Farm(C)	60	66	63	57↓
5.		Shadipur(C)	72	59	63	57↓

Ambient Air Quality and Noise Levels on Deepawali festival

Arunachal Pradesh

Observations - In this State, ambient air quality monitoring and noise monitoring carried out in two cities. The Pre-Deepawali day, PM₁₀ level ranged between 33 and 43 µg/m³, while same on the festival day ranged between 54 and 61µg/m³. The maximum PM₁₀ value of 61µg/m³ was reported at

Naharlagun on the festival day. The Pre- Deepawali Day noise level ranged between 54 and 61Leq.dB (A), while same on the festival day ranged between 63 and 73Leq.dB (A). The maximum noise level value of 73Leq.dB (A) was reported at Itanagar on the festival day.

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Itanagar	-	-	30	07	BDL	76	BDL	BDL	45	BDL	BDL	33↓
2.	Naharlagun	-	-	31	BDL	BDL	56	BDL	BDL	43	BDL	BDL	43=

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Itanagar	-	-	105	-	-	86	06	10	61	07↑	09↓	54↓
2.	Naharlagun	-	-	51	BDL	BDL	75	05	BDL	51	05=	09↑	61↑

S.No.	Locations	2016	2017
1.	Itanagar	60	61↑
2.	Naharlagun	53	54↑

S.No.	Locations	2016	2017
1.	Itanagar	73	73=
2.	Naharlagun	61	63↑

Ambient Air Quality and Noise Levels on Deepawali festival

Bihar

Observations – In this State, ambient air quality monitoring carried out at one location and noise monitoring carried out at five locations in the patna city. The pre- deepawali day, PM₁₀ level 269 ug/m³ has observed and it is less than as compared to last year while same on the festival day level was 251 µg/m³.

The pre- deepawali day noise level ranged between 44 and 79 Leq.dB(A), while same on the festival day ranged between 63 and 82 Leq.dB(A). The maximum noise level value of 82 Leq.dB(A) was reported at **Boring Road Crossing(C)**, Patna, on the festival day.

Table-I Ambient Air Quality Levels in (µg/m ³) on Pre- Deepawali Day 2014 - 2017 in Bihar											
S.No.	City	Location	2014			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Patna	Boring Road Crossing	05	78	278	06	103	336	08↑	119↑	269↓
Note: 2015 Data Not received											

Table-II Ambient Air Quality Levels in (µg/m ³) on Deepawali Day 2014 - 2016 in Bihar											
S.No.	City	Location	2014			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Patna	Boring Road Crossing	08	77	487	10	101	499	06↓	96↓	251↓
Note: 2015 Data Not received											

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Bihar

S.No.	City	Locations	2014	2016	2017
1.	Patna	Boaring Road crossing (C)	80	77	79↑
2.		Hindustan Coca Cola Beveage (I)	-	74	59↓
3.		Shastri Nagar (R)	-	60	44↓
4.		Planetarium (IGSC) Adalatgand (C)	-	76	66↓
5.		IGIMS, Main Gate Shekhpura (C)	-	53	61↑
Note: 2015 Data Not received					

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Bihar

S.No.	City	Locations	2014	2016	2017
1.	Patna	Boaring Road crossing (C)	85	82	82=
2.		Hindustan Coca Cola Beveage (I)	-	61	70↑
3.		Shastri Nagar (R)	-	52	63↑
4.		Planetarium (IGSC) Adalatgand (C)	-	59	70↑
5.		IGIMS, Main Gate Shekhpura (C)	-	63	72↑
Note: 2015 Data Not received					

Ambient Air Quality and Noise Levels on Deepawali festival

Chhattisgarh

Observations – In this State, ambient air quality monitoring carried out twenty three locations in ten cities. Noise monitoring carried out at seventeen locations in ten cities. The day, PM₁₀ level ranged between 38 and 115µg/m³, while same on the festival day ranged between 60 and 171µg/m³. The maximum PM₁₀ value of 171µg/m³ was reported at **T.P. Nagar** on the festival day.

The pre- deepawali day noise level ranged between 43 and 69 Leq.dB(A), while same on the festival day ranged between 52 and 84Leq.dB(A). The maximum noise level value of 84Leq.dB(A) was reported at **T.P. Nagar, Korba** on deepawali day.

S.No.	Cities	2014			2015			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Durg Bhilai	10	17	93	10	17	93	-	-	-
2.	Raipur	21	30	167	17	28	133	16↓	27↓	62↓
3.	Bilaspur	08	19	73	10	17	93	06↓	13↓	74↓
4.	Korba	15	18	88	13	19	86	12↓	18↓	71↓
5.	Ambikapur	-	-	-	09	12	171	11↑	12=	48↓
6.	Raigarh	10	16	-	10	16	155	13↑	17↑	77↓
7.	Jagdapur	10	14	-	10	13	192	-	-	38↓
8.	Darri Jamnipali	-	-	-	-	-	-	11	18	47
9.	Rampur	-	-	-	-	-	-	10	18	52
10.	T.P. Nagar	-	-	-	-	-	-	16	19	115
Data not available for the year 2016										

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 In Chhattisgarh										
S.No.	Cities	2014			2015			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Durg Bhilai	17	22	127	19	23	125	17↓	21↓	116↓
2.	Raipur	25	37	260	23	34	177	21↓	31↓	82↓
3.	Bilaspur	12	27	242	19	23	125	12↓	21↓	92↓
4.	Korba	23	25	194	22	28	188	24↑	31↑	114↓
5.	Ambikapur	-	-	-	11	14	266	14↑	17↑	66↓
6.	Raigarh	23	27	-	23	27	302	26↑	23↓	131↓
7.	Jagdapur	19	27	-	22	25	256	-	-	60↓
8.	Darri Jamnipali	-	-	-	-	-	-	23	33	89
9.	Rampur	-	-	-	-	-	-	21	23	81
10.	T.P.Nagar	-	-	-	-	-	-	30	38	171
Data not available for the year 2016										

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015 - 2017 in Chhattisgarh					
S.No.	Cities	Locations	2014	2015	2017
1.	Durg Bhilai	Near Pt.JLN Hospital (S)	43	43	43=
2.		Near city Kotwali (C)	67	67	62↓
3.	Raipur	AIIMS (S)	61	59	58↓
4.		City Kotwali	-	66	64↓
5.		Shankar Nagar	62	68	61↓
6.	Bilaspur	Near Disrict Hospital (S)	-	-	58
7.		Near Traffice Police Thana (R)	76	69	65↓
8.		Near city Kotwali (C)	-	-	69
9.	Korba	Darri Jamnipali (R)	60	62	51↓
10.		Tehsil Office, Rampur (R)	-	55	51↓
11.		T.P. Nagar (C)	72	72	69↓
12.	Ambikapur	Housing Board Colony Namnakal (R)	-	-	63
13.		RO office (C)	-	-	58
14.	Raigarh	RO office (R)	50	52	52=
15.	Jagdalpur	Dharampura (R)	-	-	46
16.		Sanjay Market Chowk (C)	66	64	61↓
17.		Maharani Hospital (S)	-	55	52↓

Contd..

Ambient Air Quality and Noise Levels on Deepawali festival

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 - 2017 in Chhattisgarh					
S.No.	Cities	Locations	2014	2015	2017
1.	Durg Bhilai	Near Pt.JLN Hospital (S)	52	53	52↓
2.		Near City Kotwali (C)	76	76	80↑
3.	Raipur	AIIMS (S)	89	93	78↓
4.		City Kotwali	-	103	64↓
5.		Shankar Nagar	90	99	61↓
6.	Bilaspur	Near Disrict Hospital (S)	-	-	71
7.		Near Traffice Police Thana (R)	82	78	83↑
8.		Near City Kotwali (C)	-	-	80
9.	Korba	Darri Jamnipali (R)	82	79	72↓
10.		Tehsil Office, Rampur(R)	77	74	66↓
11.		T.P. Nagar (C)	87	87	84↓
12.	Ambikapur	Housing Board Colony Namnakal (R)	-	-	78
13.		RO Office (C)	-	-	82
14.	Raigarh	RO Office (R)	84	83	82↓
15.	Jagdalpur	Dharampura (R)	-	-	64
16.		Sanjay Market Chowk (C)	96	89	70↓
17.		Maharani Hospital (S)	-	67	63↓

Contd..

Ambient Air Quality and Noise Levels on Deepawali festival

DD & DNH

Observations – In this State, ambient air quality monitoring carried out at two locations and noise monitoring carried out at one location. The pre-deepawali day, PM₁₀ level range between 83 and 89 µg /m³ has observed was less than as compared to year 2015 while same on the festival day level

was 122 µg/m³. The pre- deepawali day noise level 62 Leq.dB(A), has observed and it has less than as compared to year 2015, while same on the festival day level was 66 Leq.dB(A).

S.No.	Location	2014			2015			2016	2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀		NA	SO ₂	NO ₂
1.	Taxi Stand, Daman	-	-	-	29	23	109	NA	31↑	22↓	89↓
2.	Chaukadi Gram Panchayat, Silvassa	-	-	-	25	20	85		28↑	22↑	83↓

Note: 2016 Data Not received

S.No.	Location	2014			2015			2016	2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀		NA	SO ₂	NO ₂
1.	Taxi Stand, Daman	30	24	133	33	29	138	NA	35↑	24↓	122↓
2.	Chaukadi Gram Panchayat, Silvassa	34	25	146	28	25	126		31↑	24↓	119↓

Note: 2016 Data was Not received

S.No.	Locations	2014	2015	2016	2017
1.	Taxi Stand, Daman	-	67	NA	62↓

Note: 2016 Data Not received

S.No.	Locations	2014	2015	2016	2017
1.	Taxi Stand, Daman	74	76	NA	66↓

Note: 2016 Data Not received

Ambient Air Quality and Noise Levels on Deepawali festival

Delhi

Observations – In this State, ambient air quality monitoring carried out in four locations and noise monitoring carried out in six locations by CPCB Delhi. The pre- deepawali day, PM₁₀ level range between 193 and 272 µg/m³, while same on the deepawali day level range between 438 and 706 µg/m³. The maximum

PM₁₀ value was 706 µg/m³ at **Janak Puri**. The pre- deepawali day noise level ranged between 55 and 76 Leq.dB(A), while same on the deepawali day ranged between 69 and 83 Leq.dB(A). The maximum noise value 83Leq.dB(A) was reported at **Okhla(I)** on the festival day.

S.No.	Locations	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	ITO	05	85	129	14	78	166	09	83	203	07↓	87↑	208↑
2.	Pitampura	04	45	115	21	72	161	10	58	368	13↑	73↑	226↓
3.	Janakpuri	04	42	152	12	45	119	16	71	213	06↓	62↓	193↓
4.	Parivesh Bhawan	-	-	-	38	62	166	17	89	324	13↓	66↓	272↓

S.No.	Locations	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	ITO	08	82	442	22	57	531	16	77	878	11 ↓	74 ↓	438 ↓
2.	Pitampura	10	67	756	19	27	460	16	43	>1000	28 ↑	61 ↑	690 ↓
3.	Janakpuri	32	53	648	18	25	554	45	65	902	43 ↓	73 ↑	706 ↓
4.	Parivesh Bhawan	-	-	-	36	41	593	110	141	>1000	70 ↓	47 ↓	628 ↓

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Delhi					
S.No.	Locations	2014	2015	2016	2017
1.	Lajpat Nagar (R)	-	61	55	62↑
2.	Mayur Vihar Ph-II (R)	69	60	59	62↑
3.	Pitampura (R)	73	55	43	55↑
4.	Kamla Nagar (R)	59	61	60	61↑
5.	Janakpuri (R)	63	58	59	59=
6.	Okhla (I)	-	66	74	76↑

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Delhi					
S.No.	Locations	2014	2015	2016	2017
1.	Lajpat Nagar (R)	-	76	76	74↓
2.	Mayur Vihar Ph-II (R)	83	79	80	75↓
3.	Pitam Pura (R)	71	74	ID	69
4.	Kamla Nagar (R)	80	86	74	69↓
5.	Janakpuri (R)	78	79	75	67↓
6.	Okhla (I)	-	86	86	83↓
Note:ID indicates insufficient data					

Ambient Air Quality and Noise Levels on Deepawali festival

Gujarat

Observations- In this state, ambient air quality monitoring carried out in three locations and noise monitoring carried out in two locations at Vadodara city. The pre-deepawali day, PM₁₀ level ranged between 114 and 160 µg/m³, while same on the festival day ranged between 227 and 463 µg/m³. The maximum PM₁₀ value 463 µg/m³ was reported at **Fatehgunj Circle (C)**, on the festival

day. The pre-deepawali day noise level ranged between 57 and 78 Leq.dB(A), while same on the festival day ranged between 69 and 81 Leq.dB(A). The maximum noise level value 81 Leq.dB(A) was reported at **Fatehgunj Circle (C)**, on the festival day.

S.No.	City	Locations	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Vadodara	Fatehgunj Circle	BDL	44	151	BDL	50	286	06	46	233	BDL↓	20↓	114↓
2.		BMS University	BDL	24	109	BDL	43	149	08	28	88	BDL↓	24↓	173↑
3.		Harinagar	BDL	26	100	BDL	53	296	16	28	130	BDL↓	30↑	160↑

S.No.	City	Locations	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Vadodara	Fatehgunj Circle	BDL	49	337	BDL	38	268	12	47	337	35↑	29↓	463↑
2.		BMS University	BDL	30	226	BDL	24	239	08	25	199	10↑	20↓	227↑
3.		Harinagar	12	27	265	21	32	340	06	29	389	10↑	37↑	349↓

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Vadodara						
S.No.	City	Locations	2014	2015	2016	2017
1	Vadodara	Fatehgunj Circle (C)	78	77	76	78↑
2		M S University (S)	65	57	66	57↓
3		Hari Nagar (R)	59	74	-	61

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Vadodara						
S.No.	City	Locations	2014	2015	2016	2017
1	Vadodara	Fatehgunj Circle (C)	77	77	80	81↑
2		M S University (S)	74	64	68	69↑
3		Hari Nagar (R)	73	80	-	69

Ambient Air Quality and Noise Levels on Deepawali festival

Himachal Pradesh

Observations - In this State, ambient air quality monitoring carried out in eleven cities and noise monitoring carried out in ten cities at thirteen locations. The pre- deepawali day, PM₁₀ level ranged between 27 and 188 µg/m³, while same on the festival day ranged between 48 and 224µg/m³. The maximum PM₁₀ value 380 µg/m³ was reported at **Baddi** on the festival day.

The pre- deepawali day noise level ranged between 38 and 73 Leq.dB(A), while same on the festival day ranged between 39 and 81 Leq.dB(A). The maximum noise level value 81 Leq.dB(A) was reported at **Rampur, Bhushar (C)**, on the festival day.

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Damtal	NM	NM	NM	BDL	12	80	BDL	11	62	BDL	10↓	46↓
2.	Dharmshala	BDL	BDL	19	BDL	BDL	41	BDL	BDL	31	BDL	BDL	37↑
3.	Manali	BDL	13	36	BDL	BDL	12	BDL	BDL	49	BDL	BDL	27↓
4.	Sunder Nagar	BDL	11	45	BDL	12	174	BDL	11	83	BDL	10↓	74↓
5.	Una	-	-	86	-	-	81	BDL	BDL	65	BDL	BDL	71↑
6.	Shimla	BDL	12	58	BDL	10	36	05	30	53	05=	27↓	69↑
7.	Baddi	-	-	93	-	-	86	-	-	151	BDL	28	188↑
8.	Parwanoo	BDL	14	23	BDL	09	41	BDL	10	97	BDL	BDL	52↓
9.	Kala Amb	BDL	12	78	BDL	13	68	BDL	13	95	BDL	14↑	85↓
10.	Paonta Sahib	BDL	12	138	BDL	13	58	BDL	13	68	BDL	14↑	61↓
11.	AHC,Barotiwala	-	-	-	-	-	-	-	-	-	BDL	27	139

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Himachal Pradesh

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Damtal	-	-	-	BDL	16	208	BDL	12	89	BDL	12=	67↓
2.	Dharmshala	16	23	45	BDL	BDL	41	BDL	10	75	BDL	10=	48↓
3.	Manali	06	26	75	BDL	BDL	60	05	19	133	BDL↓	09↓	69↓
4.	Sunder Nagar	BDL	19	102	BDL	16	89	BDL	13	195	BDL	13=	86↓
5.	Una	-	-	98	-	-	96	BDL	BDL	70	BDL	BDL	76↑
6.	Shimla	BDL	16	94	BDL	09	41	05	30	87	07↑	29↓	79↓
7.	Baddi	-	-	75	-	-	-	-	-	158	BDL	33	224↑
8.	Parwanoo	BDL	20	134	BDL	39	209	BDL	43	380	BDL	11↓	78↓
9.	Kala Amb	06	20	108	BDL	18	103	BDL	17	121	BDL	17=	108↓
10.	Paonta Sahib	08	28	162	05	17	117	05	18	125	05=	18=	95↓
11.	AHC,Barotiwala	-	-	-	-	-	-	-	-	-	BDL	34	181

Ambient Air Quality and Noise Levels on Deepawali festival

Table- II Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Himachal Pradesh						
S. No.	Cities	Locations	2014	2015	2016	2017
1.	Chamba	Mohalla Mugla (R)	44	44	43	43 =
2.	Dharmshala	Dharmshala Bbuilding (R)	-	51	48	51↑
3.	Kullu	Near Dhalpur Ground (C)	54	46	60	45↓
4.	Una	Rotary Chowk (R)	59	56	69	73↑
5.		Rakkar Colony(R)	-	51	58	62↑
6.		Govt. Hospital (S)	-	55	62	38↓
7.	Rampur	Recongpeo, (C)	44	74	54	54 =
8.		Bhushar (C)	51	74	59	63↑
9.	Bilaspur	Bilaspur (R)	48	51	54	52↓
10.	Shimla	Rigde (C)	49	46	43	47↑
11.	Baddi	Phase-I(R)	60	57	46	49↑
12.	Parwanoo	Sector IV (R)	61	50	52	54↑
13.	Paonta Sahib	Paonta Sahib (R)	48	47	47	47 =

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Himachal Pradesh

S. No.	Cities	Locations	2014	2015	2016	2017
1.	Chamba	Mohalla Mugla (R)	55	56	56	56=
2.	Dharmshala	Dharmshala Building (R)	-	68	67	69↑
3.	Kullu	Near Dhalpur Ground (C)	66	59	61	61=
4.	Una	Rotary Chowk (R)	64	63	74	73↓
5.		Rakkar Colony (R)	-	58	63	59↓
6.		Govt. Hospital (S)	-	61	60	39↓
7.	Rampur	Recongpeo, (C)	63	83	75	69↓
8.		Bhushar (C)	64	83	82	81↓
9.	Bilaspur	Bilaspur (R)	72	76	79	76↓
10.	Shimla	Rigde (C)	67	60	67	68↑
11.	Baddi	Phase-I (R)	70	71	61	61=
12.	Parwanoo	Sector IV (R)	69	66	67	69↑
13.	Paonta Sahib	Paonta Sahib (R)	58	58	59	57↓

Ambient Air Quality and Noise Levels on Deepawali festival

Jammu & Kashmir

Observations- In this state, ambient air quality monitoring carried out in two locations and noise monitoring carried out in four locations in Jammu. The pre-deepawali day, PM₁₀ level ranged between 122 and 140µg/m³, while same on the festival day ranged between 155 and 205µg/m³. The maximum PM₁₀ value

205 µg/m³ was reported at MAM Jewel Chowk on the festival day. The pre-deepawali day noise level ranged between 81 and 87 Leq.dB(A), while same on the festival day ranged between 98 and 104 Leq.dB(A). The maximum noise level value 104 Leq.dB(A) was reported at Bakashi Nagar on the festival day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2017 in Jammu							
S.No.	Locations	Pre- Deepawali day			Deepawali day		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	MAM Jewel Chowk	BDL	14	122	05	20	205
2.	SPCB Jammu	05	19	140	05	20	155
Past years data not available for comparison							

Table-II Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day and Deepawali day 2017 in Jammu			
S.No.	Locations	Pre- Deepawali day	Deepawali day
1	Gole Market, Gandhi Nagar	86	101
2	Rehari Chungi	81	98
3	Kachi Chowini	83	100
4	Bakashi Nagar	87	104
Past years data not available for comparison			

Ambient Air Quality and Noise Levels on Deepawali festival

Goa

Observations- In this state, ambient air quality monitoring carried out in five locations and noise monitoring carried out in four locations in Goa. The pre-deepawali day, PM₁₀ level ranged between 13 and 60 µg/m³, while same on the festival day ranged between 88 and 143 µg/m³. The maximum

PM₁₀ value 143 µg/m³ was reported at Ponda on the festival day. The Pre-Deepawali Day noise level ranged between 68 and 75 Leq.dB(A), while same on the festival day ranged between 60 and 82 Leq.dB(A). The maximum noise level value 82 Leq.dB(A) was reported at Vasco (C), on the festival day.

S.No.	Locations	2015			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1	Mapusa	09	BDL	35	BDL↓	BDL	30↓
2	Panaji	BDL	18	38	BDL	21↑	41↑
3	Vasco	05	12	287	BDL↓	18↑	13↓
4	Margao	BDL	09	61	08↑	11↑	52↓
5	Ponda	BDL	09	30	10↑	13↑	60↑

Note: data of 2014 and 2016 not received

S.No.	Locations	2015			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1	Mapusa	12	09	87	BDL↓	BDL↓	88↑
2	Panaji	BDL	24	55	BDL	20↓	115↑
3	Vasco	BDL	40	239	BDL	12↓	96↓
4	Margao	BDL	09	63	13↑	18↑	117↑
5	Ponda	BDL	09	57	14↑	19↑	143↑

Note: data of 2014 and 2016 not received

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015 and 2017 in Goa			
S.No.	Locations	2015	2017
1	Mapusa (S)	62	75↑
2	Panjim (C)	61	69↑
3	Vasco (C)	64	68↑
4	Margao (C)	67	74↑
Note: data of 2014 and 2016 has not received			

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 and 2017 in Goa			
S.No.	Locations	2015	2017
1	Mapusa (S)	NA	75
2	Panjim (C)	63	60↓
3	Vasco (C)	71	82↑
4	Margao (C)	63	NA
Note: data of 2014 and 2016 has not received			

Ambient Air Quality and Noise Levels on Deepawali festival

Karnataka

Observations - In this State, ambient air quality monitoring and noise monitoring carried out at two locations in **Bangaluru** city by CPCB, Regional Directorate, Bangaluru. The pre- deepawali day, PM₁₀ level ranged between 28 and 35µg/m³, while same on the festival day ranged between 213 and 255 µg/m³. The maximum PM₁₀ value 255 µg/m³ was reported at **Basaweshwar**

Nagar on the festival day. The pre- deepawali day noise level ranged between 65 and 76 Leq.dB(A), while same on the festival day ranged between 72 and 80 Leq.dB(A). The maximum noise level value 80 Leq.dB(A) was reported at **Basaweshwar Nagar (R)** on the festival day.

S.No.	Locations	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Basaweshwar Nagar	-	-	-	BDL	16	61	BDL	31	105	10↑	14↓	28↓
2.	R T Nagar	BDL	11	48	BDL	24	88	BDL	42	178	15↑	33↓	35↓

S.No.	Locations	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Basaweshwar Nagar	-	-	-	BDL	30	86	BDL	16	86	11↑	46↑	255↑
2.	R T Nagar	BDL	23	103	BDL	25	116	BDL	16	129	09↑	60↑	213↑

S.No.	Locations	2014	2015	2016	2017
1.	Basaweshwar Nagar (R)	-	82	78	76↓
2.	R T Nagar (R)	73	92	79	65↓

S.No.	Locations	2014	2015	2016	2017
1.	Basaweshwar Nagar (R)	-	65	70	80↑
2.	R T Nagar (R)	56	68	68	72↑

Ambient Air Quality and Noise Levels on Deepawali festival

Kerala

Observations - In this State, ambient air quality monitoring carried out in two locations and noise monitoring carried out three locations.

The pre- deepawali day, PM₁₀ level ranged between 46 and 59 µg/m³, and the festival day ranged between 62 and 75 µg/m³. The maximum PM₁₀ value

75µg/m³ was reported at **Vadavathoor** on the festival day. The pre- deepawali day noise level ranged between 55 and 80 Leq.dB(A), while same on the festival day ranged between 59 and 81 Leq.dB(A). The maximum noise level value of 81 Leq.dB(A) was reported at **Kottayam (C)** on the festival day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali and Deepawali Day 2017 in Kerala

S.No.	Locations	Pre-Deepawali day			Deepawali day		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Kottayam	BDL	13	46	05	15	62
2.	Vadavathoor	05	14	59	05	15	75

Note: data not available for comparison.

Table-II Noise Level in Leq dB(A) at different locations on Pre-Deepawali and Deepawali Day 2017 in Kerala

S.No.	Locations	Pre-Deepawali day	Deepawali day
1.	Kottayam (C)	80	81
2.	Vadavathoor (I)	73	75
3.	Chungam (R)	55	59

Note: data not available for comparison.

Ambient Air Quality and Noise Levels on Deepawali festival

Madhya Pradesh

Observations - In this State, pre- deepawali ambient air quality monitoring carried out in fourteen locations in four cities and deepawali day eighteen locations in five cities and noise monitoring carried out in eleven locations in four cities. The pre- deepawali day, PM₁₀ level ranged between 54 and 152 µg/m³, while same on the festival day ranged between 63 and 283 µg/m³. The

maximum PM₁₀ value 283 µg/m³ was reported at **Maharaja bad (R), Gwalior** on the festival day. The pre- deepawali day noise level ranged between 42 and 72 Leq.dB(A), while same on the festival day ranged between 69 and 97 Leq.dB(A). The maximum value of 97 Leq.dB(A) was reported at **Nehru Nagar (R)** on the festival day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2014 - 2017 in Madhya Pradesh

S.No.	City	Locations	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Bhopal	North T.T. Nagar	27	BDL	78	BDL	14	84	BDL	24	79	05↑	23↓	89↑
2.		Nehru Nagar	-	-	-	BDL	16	116	BDL	21	112	BDL	14↓	65↓
3.		Sahajanabad	-	-	-	BDL	20	100	05	26	119	05=	27↑	92↓
4.		Katra Bazar, Sagar	-	-	-	-	-	-	-	-	-	BDL	13	83
5.		D D Nagar, Sagar	-	-	-	-	-	-	-	-	-	BDL	11	54
6.	Guna	Meenakshi Hospital, Dalvi colony	-	-	-	-	-	-	-	-	-	-	-	56
7.		Dubey Colony	-	-	-	-	-	-	-	-	-	-	-	68
8.		Traffic Police Station, J.S. Chauraha	-	-	-	-	-	-	-	-	-	14	19	152
9.	Ujjain	Mahakal Temple	-	-	-	-	-	-	-	-	-	12	13	51
10.		Nagar Nigam	-	-	-	-	-	-	-	-	-	18	19	70
11.		Regional Office	-	-	-	-	-	-	-	-	-	13	14	53
12.	Gwalior	Maharaj Bad	-	-	-	-	-	-	-	-	-	11	15	116
13.		Deen Dayal Nagar	-	-	-	-	-	-	-	-	-	10	15	86
14.		J.S. Hospital	-	-	-	-	-	-	-	-	-	08	12	79

Ambient Air Quality and Noise Levels on Deepawali festival

Table- II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Madhya Pradesh

S.No.	City	Locations	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Bhopal	North T.T.Nagar	09	33	208	19	41	318	22	44	217	16↓	35↓	169↓
2.		Nehru Nagar	-	-	-	18	47	419	24	49	697	19↓	40↓	213↓
3.		Sahajanabad	-	-	-	16	46	309	23	45	215	18↓	39↓	194↓
4.		Katra Bazar, Sagar	-	-	-	-	-	-	-	-	-	05	23	185
5.		DD Nagar, Sagar	-	-	-	-	-	-	-	-	-	BDL	16	130
6.	Guna	Meenakshi Hospital, Dalvi colony	-	-	-	-	-	-	-	-	-	-	-	63
7.		Dubey Colony	-	-	-	-	-	-	-	-	-	-	-	104
8.		Traffic Police thana, Jai Stambh Chauraha	-	-	-	-	-	-	-	-	-	16	23	192
9.	Ujjain	Mahakal Temple	-	-	-	-	-	-	-	-	-	16	17	134
10.		Nagar Nigam	-	-	-	-	-	-	-	-	-	19	20	150
11.		Regional Office	-	-	-	-	-	-	-	-	-	14	15	127
12.		Mahaveer Nagar	-	-	-	-	-	-	-	-	-	19	20	176
13.	Nagada	Birlagram	-	-	-	-	-	-	-	-	-	22	37	117
14.		Mahrashtra Mandal	-	-	-	-	-	-	-	-	-	30	49	109
15.		IBPM Hospital	-	-	-	-	-	-	-	-	-	16	23	53
16.	Gwalior	Maharaj Bad	-	-	-	-	-	-	-	-	-	17	25	283
17.		Deen Dayal Nagar	-	-	-	-	-	-	-	-	-	14	23	219
18.		J.S. Hospital	-	-	-	-	-	-	-	-	-	15	20	193

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Madhya Pradesh						
S.No.	City	Location	2014	2015	2016	2017
1.	Bhopal	North T.T.Nagar (C)	68	66	66	66=
2.		Nehru Nagar (R)	-	65	65	63↓
3.		Sahajanabad (R)	-	61	63	63=
4.		Katra Bazar, Sagar (C)	-	-	-	72
5.	Guna	Meenakshi Hospital, Dalvi colony (S)	-	-	-	42
6.		Dubey Colony (R)	-	-	-	49
7.		Traffic Police thana, Jai Stambh Chauraha (C)	-	-	-	63
8.	Ujjain	Mahaveer Nagar (R)	-	-	-	49
9.	Gwalior	Maharaj Bad	-	-	-	57
10.		Deen Dayal Nagar	-	-	-	48
11.		J.S. Hospital	-	-	-	49

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq. dB(A) at different locations on Deepawali Day 2014-2017 in Madhya Pradesh						
S.No.	City	Location	2014	2015	2016	2017
1.	Bhopal	North T.T.Nagar (C)	81	79	72	74↑
2.		Nehru Nagar (R)	-	71	75	72↓
3.		Sahajanabad (R)	-	66	81	97↑
4.		Katra Bazar, Sagar (C)	-	-	-	81
5.	Guna	Meenakshi Hospital, Dalvi colony (S)	-	-	-	69
6.		Dubey Colony (R)	-	-	-	89
7.		Traffic Police thana, Jai Stambh Chauraha (C)	-	-	-	96
8.	Ujjain	Mahaveer Nagar (R)	-	-	-	88
9.	Gwalior	Maharaj Bad				73
10.		Deen Dayal Nagar	-	-	-	66
11.		J.S. Hospital	-	-	-	66

Ambient Air Quality and Noise Levels on Deepawali festival

Meghalaya

Observations - In this State, ambient air quality monitoring carried out in three locations and noise monitoring carried out two locations which are different from last year by CPCB, Regional Directorate Shillong.

The pre- deepawali day, PM₁₀ level ranged between 28 and 50 µg/m³, and the festival day ranged between 41 and 208 µg/m³. The maximum PM₁₀ value 208

µg/m³ was reported at **Upper Mawprem** on the festival day. The pre-deepawali day noise level ranged between 48 and 54 Leq.dB(A), while same on the festival day ranged between 73 and 81 Leq.dB(A). The maximum noise level value of 81 Leq.dB(A) was reported at **Upper Mawprem (C)** on the festival day.

Table-I Ambient Air Quality Levels in (µg/m ³) on Pre- Deepawali Day 2017 in Meghalaya							
S.No.	Locations	Pre- Deepawali Day			Deepawali Day		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	CPCB, Shillong	BDL	08	28	BDL	BDL	41
2.	Upper Mawprem	BDL	08	50	BDL	10	208
3.	Nazareth Hospital	BDL	08	36	BDL	BDL	66
Monitoring was not carried out in same location past years							

Table-III Noise Level in Leq.dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Meghalaya					
S.No.	Locations	2014	2015	2016	2017
1.	Nazareth Hospital (S)	-	-	-	48
2.	Upper Mawprem (C)	55	58	58	54↓

Table-IV Noise Level in Leq.dB(A) at different locations on Deepawali Day 2014-2017 in Meghalaya					
S.No.	Locations	2014	2015	2016	2017
1.	Nazareth Hospital (S)	-	-	-	73
2.	Upper Mawprem (C)	86	88	82	81↓

Ambient Air Quality and Noise Levels on Deepawali festival

Nagaland

Observations - In this State, ambient air quality monitoring carried out at two locations and noise monitoring carried out at three locations. The pre- deepawali day, PM₁₀ level ranged between 78 and 133µg/m³, while same on the festival day ranged between 149 and 239µg/m³. The maximum PM₁₀ value 239 µg/m³ was reported at Bank Colony on the festival day.

The pre- deepawali day noise level ranged between 51 and 56 Leq.dB(A), while same on the festival day ranged between 61 and 69 Leq.dB(A). The maximum noise level value 69Leq.dB(A) was reported at City Tower (C) on the festival day.

S.No.	Locations	2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Bank Colony	BDL	13	43	BDL	BDL	101	BDL	06↑	78↓
2.	Dhobinala	BDL	15	115	BDL	26	137	BDL	BDL↓	133↓
Note: Data was not available year 2014										

S.No.	Locations	2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Bank Colony	BDL	09	232	BDL	20	181	BDL	06↓	239↑
2.	Dhobinala	BDL	17	268	BDL	17	213	BDL	09↓	149↓
Note: Data was not available year 2014										

Ambient Air Quality and Noise Levels on Deepawali festival

Table- III Noise Level in Leq dB(A) at different locations on Pre-Deepawali Day 2015 - 2017 in Nagaland

S.No.	Locations	2015	2016	2017
1.	Bank colony (R)	54	47	54↑
2.	City Tower (C)	62	57	56↓
3.	District Hospital (S)	51	49	51↑

Note: data is not available year 2014

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 - 2017 in Nagaland

S.No.	Locations	2015	2016	2017
1.	Bank colony (R)	71	70	62↓
2.	City Tower (C)	78	83	69↓
3.	District Hospital (S)	63	61	61=

Note: data is not available year 2014

Ambient Air Quality and Noise Levels on Deepawali festival

Odisha

Observations - In ambient air quality monitoring carried out in forty locations in thirteen cities on pre- deepawali day and fifteen locations in four cities on deepawali day. Noise monitoring carried out at forty-eight locations in twelve cities on pre- deepawali and fifteen locations in four cities on deepawali day. In pre-deepawali day PM₁₀ level ranged between 39 and 123 µg/m³, while same on the festival day ranged between 47 and 125µg/m³. The maximum

PM₁₀ value 125µg/m³ was reported at **R.O. Building, Rayagada** on the festival day. The pre- deepawali day noise level ranged between 48 and 83 Leq.dB (A), while same on the festival day ranged between 58 and 89 Leq.dB(A). The maximum noise level value of 89 Leq.dB(A) was reported at **Punjabi chowk (C), Keonjhar** on the festival day.

Table-I Ambient Air Quality Levels in (µg/m ³) on Pre- Deepawali Day 2016 - 2017 in Odisha								
S.No	Cities	Locations	2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Angul	Industrial Estate, Hakimpada	07	24	83	08↑	25↑	77↓
2.		Nalco Township	-	-	-	13	26	66
3.		Talcher Thermal	-	-	-	11	29	76
4.		MCL Area, Talcher	-	-	-	11	31	58
5.	Balasore	Sahadevkhunta	BDL	11	77	BDL	11=	75↓
6.		Motiganj bazar	BDL	14	92	BDL	13↓	97↑
7.		Balasore Industrial Estate	-	-	-	06	12	81
8.	Behrampur	Brahmanagar	BDL	23	68	BDL	17↓	75↑
9.		Girija market square	BDL	34	80	BDL	31↓	120↑
10.		MKCG Medical College& Hospital	BDL	25	71	BDL	14↓	64↓
11.		Industrial Estate, Ankuli	BDL	34	85	BDL	26↓	118↑
Contd.								

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-I Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Pre- Deepawali Day 2016 - 2017 in Odisha								
S.No	Cities	Locations	2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
12.	Bhubaneswar	Office Building	BDL	28	76	BDL	28=	82↑
13.		IRC Nayapalli	BDL	27	88	BDL	21↓	78↓
14.		Capital Police Station	BDL	17	129	BDL	14↓	106↓
15.		Patrapada	BDL	16	108	BDL	13↓	83↓
16.		Chandrasekharpur	BDL	14	96	BDL	14=	109↑
17.		Palasuni water works	BDL	11	135	BDL	16↑	46↓
18.	Cuttack	PHD Office near Barabati Stadium	BDL	29	74	BDL	29=	56↓
19.		Regional Office Building, Suryavihar	BDL	29	70	BDL	29=	60↓
20.		Traffic Tower Badambadi	BDL	34	79	BDL	34=	67↓
21.	Kalinganagar	Tata steel officers' mess, Duburi	BDL	12	92	BDL	13↑	123↑
22.		NINL Guest House	BDL	09	97	BDL	10↑	117↑
23.		RO, Building, Common Facility Centre,	BDL	09	91	BDL	BDL↓	91=
24.	Keonjhar	RO, Building	BDL	14	65	BDL	16↑	43↓
25.	Paradeep	STP Building, IFFCO	22	12	184	21↓	11↓	83↓
26.		PPL Guest House	24	13	123	21↓	11↓	76↓
27.		PPT Staff Quarters	22	13	203	20↓	11↓	56↓
28.	Puri	Sadar Police station	BDL	17	199	BDL	13↓	39↓
29.		Town Police Station	BDL	14	181	BDL	14=	39↓
30.	Rayagada	RO, Building	BDL	18	85	BDL	17↓	49↓
Contd.								

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-I Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Pre- Deepawali Day 2016 - 2017 in Odisha								
S.No	Cities	Locations	2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
31.	Rourkela	RO, SPCB	06	13	90	06=	10↓	72↓
33.		IDL, Sonaparbat	07	12	95	07=	10↓	102↑
34.		DISIR, Rajgangpur	15	16	111	07↓	11↓	56↓
35.		Bonai Hospital	-	-	-	06	11	62
36.		Kuarmunda Hospital	-	-	-	05	10	43
37.	Sambalpur	Ainthapalli	BDL	18	75	06↑	21↑	87↑
38.		Golebazar	05	22	90	BDL↓	18↓	71↓
39.		Dist H.Q.Hospital, Modipara	05	19	71	BDL↓	19=	77↑
40.		Bareipali	-	-	-	06	20	85

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2016 - 2017 in Odisha								
S. No	Cities	Locations	2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Keonjhar	RO, Building	BDL	21	106	BDL	21=	47↓
2.	Rayagada	RO, Building	14	27	166	16↑	26↓	125↓
3.	Rourkela	RO, SPCB	10	19	128	07↓	11↓	88↓
4.		IDL, Sonaparbat	18	26	212	08↓	11↓	113↓
5.		DISIR, Rajgangpur	30	35	143	12↓	16↓	112↓
6.		Bonai Hospital	-	-	-	07	12	65
7.		Kuarmunda Hospital	-	-	-	06	10	70
8.	Sambalpur	Ainthapalli	72	24	103	08↓	28↑	106↑
9.		Golebazar	08	30	109	08=	29↓	94↓
10.		Dist H.Q. Hospital, Modipara	07	26	93	08↑	28↑	92↓
11.		Bareipali	-	-	-	06	24	99
Note: Data not available more city due to rainy day								

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015-2017 in Odisha					
S.No.	Cities	Locations	2015	2016	2017
1.	Angul	Amalpada (R)	53	65	69↑
2.		Bazar Chhak (C)	67	70	77↑
3.		District HQ (S)	57	62	66↑
4.		Hakimpada (I)	49	58	62↑
5.	Balasore	Sahadevkhunta (R)	58	56	57↑
6.		Motiganj (C)	68	62	64↑
7.		District HQ (I)	53	51	53↑
8.		Balasore Industrial Estate (I)	63	63	64↑
9.	Behrampur	Brahmanagar (R)	56	71	67↓
10.		Girija Market Square (C)	79	85	83↓
11.		MKCG Medical College Hospital Campus (S)	57	65	61↓
12.		Ankuli (I)	63	74	74=
13.	Bhubaneswar	Nayapalli (R)	63	66	69↑
14.		Sahid Nagar (C)	68	72	69↓
15.		Capital Hospital (S)	56	60	60=
16.		Rasulgarh (I)	71	70	71↑
17.	Cuttack	Suryavihar Link (R)	67	71	71=
18.		Badambadi (C)	72	76	81↑
19.		SCB Medical collage & Hospital (S)	-	-	66
20.		Khapuria (I)	65	70	69↓
22.	Kalinganagar	Sapagadia (R)	53	55	57↑
23.		Gopabandhu Chhak (C)	72	71	66↓
24.		CHC Hospital (S)	52	59	60↑
25.		Near Tata gate No.3 KNIC (I)	63	70	66↓
27.	Keonjhar	Baniapat Chowk (R)	68	68	72↑
28.		Punjabi Chowk (C)	69	77	79↑
29.		Govt. Hospital (S)	61	66	65↓
					Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015-2017 in Odisha					
S.No.	Cities	Locations	2015	2016	2017
30.	Paradeep	PPT colony (R)	55	64	62↓
31.		Badpadia Market (C)	73	65	67↑
32.		Health Centre (S)	62	59	63↑
33.		IFFCO Ltd. (I)	-	62	66↑
34.	Puri	Kumutisahi, Old Sadar lane (R)	66	63	79↑
35.		Sri Mandir, Puri (C)	68	73	76↑
36.		District HQ Hospital (S)	62	59	62↑
37.	Rayagada	Indira Nagar	63	59	75↑
38.		Main Market	-	74	70↓
39.		Dist. H.Q. Hospital	-	57	68↑
40.		Tumbiguda	-	71	72↑
41.	Rourkela	Sec- 4 (R)	47	52	49↓
42.		Bisra Chowk (C)	74	70	76↑
43.		IGH, Steel Township (S)	46	44	48↑
44.		RSPL Sail (I)	63	51	60↑
45.	Sambalpur	Ainthapalli (R)	47	50	52↑
46.		Goal Bazar Chowk (C)	57	57	55↓
47.		Dist HQ Hospital (S)	51	57	49↓
48.		Bareipali (I)	-	-	59
Contd.					

Ambient Air Quality and Noise Levels on Deepawali festival

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015-2017 in Odisha

S.No.	Cities	Locations	2015	2016	2017
1.	Keonjhar	Baniapat Chowk (R)	68	76	82↑
2.		Punjabi Chowk (C)	72	86	89↑
3.		Govt. Hospital (S)	61	75	72↓
4.	Rayagada	Indira Nagar	-	73	87↑
5.		Main Market	-	84	84=
6.		District Head Quarter Hospital	-	71	69↓
7.		Tumbiguda	-	79	79=
8.	Rourkela	Sec- 4 (R)	64	63	74↑
9.		Bisra Chowk (C)	83	74	83↑
10.		IGH, Steel Township (S)	58	46	58↑
11.		RSPL Sail (I)	82	52	65↑
12.	Sambalpur	Ainthapalli (R)	100	61	63↑
13.		Goal Bazar Chowk (C)	82	71	61↓
14.		Dist HQ Hospital (S)	58	67	62↓
15.		Bareipali (I)	-	-	65

Ambient Air Quality and Noise Levels on Deepawali festival

Punjab

Observations - In this State, ambient air quality monitoring carried out at five cities and noise monitoring carried out ten cities at thirty locations.

The pre- deepawali day, PM₁₀ ranged between 90 and 212 µg/m³, while same on the festival day ranged between 159 and 416µg/m³. The maximum PM₁₀

value 416µg/m³ was reported at **Ludhiana** the festival day. The pre- deepawali day noise level ranged between 39 and 80 Leq.dB(A), while same on the festival day ranged between 44 and 87 Leq.dB(A). The maximum noise level value 87 Leq.dB(A) was reported at **Residential, Sangrur** on the festival day.

S.No.	Cities	2014			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Mandi Gobindgarh	06	18	143	07	19	116	09↑	27↑	148↑
2.	Patiala	BDL	11	102	05	13	117	05=	49↑	90↓
3.	Ludhiana	09	27	235	11	32	171	10↓	26↓	214↑
4.	Jalandhar	12	27	157	12	28	162	11↓	24↓	177↑
5.	Amritsar	11	31	194	11	31	195	10↓	33↑	212↑
Data not available in year 2015										

S.No.	Cities	2014			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Mandi Gobindgarh	13	30	220	17	30	220	14↓	43↑	215↓
2.	Patiala	05	17	176	07	17	154	08↑	17=	159↑
3.	Ludhiana	22	43	408	20	41	322	26↑	37↓	416↑
4.	Jalandhar	22	33	249	19	32	221	22↑	28↓	218↓
5.	Amritsar	19	40	347	18	45	277	29↑	35↓	278↑
No Data available in the year 2015										

Ambient Air Quality and Noise Levels on Deepawali festival

Table- III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014 - 2017 in Punjab					
S.No.	Cites	Locations	2014	2016	2017
1.	Patiala	Residential	70	68	69↑
2.		Silence Zone	58	59	60↑
3.		Commercial Zone	72	80	80=
4.	Ludhiana	Milk Plant (R)	71	72	68↓
5.		Sheela Hospital (S)	72	74	65↓
6.		Vishavkarma Chowk (C)	79	76	78↑
7.	Jalandhar	Residential	58	60	61↑
8.		Commercial	72	80	52↓
9.		Silence Zone	52	55	67↑
10.	Hoshiarpur	Purhiran (R)	65	58	50↓
11.		Sessions Chowk (S)	49	45	49↑
12.		Phagwara Chowk (C)	77	53	72↑
13.	Sangrur	Residential	71	71	67↓
14.		Silence Zone	59	59	58↓
15.		Commercial	70	69	69=
16.	Bhatinda	Model Town (R)	34	40	42↑
17.		Civil Hospital (S)	45	47	46↓
18.		Gole Diggi (C)	62	65	61↓
19.	Faridkot	Harindra Nagar(R)	57	39	39=
20.		Civil Hospital (S)	63	43	43=
21.		Main Bazar, Near Clock Tower (C)	68	61	60↓
22.	Mohali	Residential Area	-	-	54
23.		Silence Zone	-	-	54
24.		Commercial Area	-	-	53
25.	Gurdaspur	Residential Area	-	-	53
26.		Silence Zone	-	-	53
27.		Commercial Area	-	-	66
28.	Sirhind	Residential	-	-	62
29.		Silence Zone	-	-	62
30.		Commercial Zone	-	-	66

No Data available in the year 2015

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014 - 2017 in Punjab					
S.No.	City	Location	2014	2016	2017
1.	Patiala	Residential	71	72	71↓
2.		Silence Zone	61	64	63↓
3.		Commercial Zone	73	82	78↓
4.	Ludhiana	Milk Plant (R)	86	74	70↓
5.		Sheela Hospital (S)	87	78	72↓
6.		Vishavkarma Chowk (C)	87	76	77↑
7.	Jalandhar	Residential	79	65	71↑
8.		Silence Zone	53	56	60↑
9.		Commercial	86	91	75↓
10.	Hoshiarpur	Purhiraan (R)	82	63	70↑
11.		Sessions Chowk (S)	83	56	68↑
12.		Phagwara Chowk (C)	81	56	71↑
13.	Sangrur	Residential	78	91	87↓
14.		Silence Zone	72	59	62↑
15.		Commercial	73	88	82↓
16.	Bhatinda	Model Town (R)	80	72	44↓
17.		Civil Hospital (S)	81	74	56↓
18.		Gole Diggi (C)	83	76	69↓
No Data available in the year 2015					Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014 - 2017 in Punjab					
S.No.	City	Location	2014	2016	2017
19.	Faridkot	Harindra Nagar(R)	74	70	70=
20.		Civil Hospital (S)	73	73	56↓
21.		Main Bazar, Near Clock Tower	78	73	73=
22.	Mohali	Residential Area	-	-	77
23.		Silence Zone	-	-	69
24.		Commercial Area	-	-	75
25.	Gurdaspur	Residential Area	-	-	68
26.		Silence Zone	-	-	61
27.		Commercial Area	-	-	76
28.	Sirhind	Residential	-	-	66
29.		Silence Zone	-	-	65
30.		Commercial Zone	-	-	71
No Data available in the year 2015					

Ambient Air Quality and Noise Levels on Deepawali festival

Puducherry

Observations – In this State, ambient air quality monitoring carried out at two locations and noise monitoring carried out at one location.

The pre- deepawali PM₁₀ level range between 35 and 73 µg/m³, while same on the festival day level range between 62 and 180 µg/m³. The maximum PM₁₀ value

was 180µg/m³ at Anna Nagar. The pre- deepawali Day noise level 67 Leq.dB(A), while same on the festival day 91 Leq.dB(A). The maximum noise value 91 Leq.dB(A) was reported at Mudaliarpet (R) on the festival day.

S.No.	Locations	2014			2015			2016	2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1.	Anna Nagar	07	BDL	21	11	08	45	NA	BDL↓	20↑	73↑
2.	Kovilpathu, Karaikal	13	14	28	13	11	36		11↓	08↓	35↓

S.No.	Locations	2014			2015			2016	2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1.	Anna Nagar	18	12	116	08	10	72	NA	09↑	31↑	180↑
2.	Kovilpahu, Karaikal	28	20	69	25	13	100		13↓	13=	62↓

S.No.	Locations	2014	2015	2016	2017
1.	Mudaliarpet (R)	68	67	NA	67

S.No.	Locations	2014	2015	2016	2017
1.	Mudaliarpet (R)	82	78	NA	91

Ambient Air Quality and Noise Levels on Deepawali festival

Rajasthan

Observations – In this State, ambient air quality monitoring carried out at thirty eight locations in eight cities and noise monitoring carried out at thirty two locations in fourteen cities. The pre- deepawali PM₁₀ level range between 54 and 376µg/m³, while same on the festival day level range between 134 and

734µg/m³. The maximum PM₁₀ value was 734µg/m³ at Kudi Bhagtasni P. Station, Jodhpur city. The pre- deepawali day noise level 48 and 79 Leq.dB(A), while same on the festival day 65 and 87 Leq.dB(A). The maximum noise value 87 Leq.dB(A) was reported at Azad Nagar (R), Bhilwara city on the festival day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2014 - 2017 in Rajasthan

S.No.	Cities	Location	2014*			2015*			2016*			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Jaipur	Jhalana (R)	05	31	45	07	35	119	07	29	150	08↑	30↑	112↓
2.		RO, Jaipur (R)	05	36	147	08	42	259	09	37	233	09=	38↑	217↓
3.		Ajmeri Gate (R)	05	34	45	08	36	177	10	35	167	09↓	37↑	169↑
4.		Chandpole (R)	05	32	47	08	38	204	09	37	205	08↓	38↑	175↓
5.		V.K.I.A (I)	06	36	116	08	40	307	10	42	278	10=	39↓	275↓
6.		M.I.A (I)	BDL	34	117	07	33	146	33	43	-	07↓	29↓	115
7.		Sitapura (I)	-	-	-	-	-	-	-	-	-	07	34	124
8.		Bacees Godam (I)	-	-	-	-	-	-	-	-	-	08	37	175
9.		Mansarovar (R)	-	-	-	-	-	-	-	-	-	07	29	120
10.	Alwar	RO, RSPCB	10	25	230	07	27	165	60	32	138	06=	32=	95↓
11.		Gaurav Soves	-	-	-	08	30	202	08	35	157	09↑	36↑	118↓
12.		RIICO Pump House	-	-	212	08	31	167	09	33	-	09=	36↑	98
13.	Jodhpur	District Industrial Cortn.	05	26	107	23	23	117	10	16	182	06↓	34↑	179↓
14.		Housing Board	06	23	70	20	20	149	10	18	142	05↓	23↑	255↑
15.		Mahamandir Police Station	05	25	95	19	19	136	09	19	108	06↓	23↑	134↑
16.		RO RSPCB,Jodhpur	06	21	129	19	18	221	08	22	174	11↑	31↑	163↓
17.		Shastri Nagar P. Station	07	35	150	20	20	148	07	25	179	05↓	25=	220↑
18.		Sojati Gate	07	26	206	29	29	240	05	29	154	07↑	30↑	183↑
19.		Sangaria P. Sub Station	-	-	-	-	-	-	-	-	-	08	17	311
20.		Kudi Bhagtasni P.Station	-	-	-	-	-	-	-	-	-	05	18	305
21.		Soor Sagar P.Station	-	-	-	-	-	-	-	-	-	05	21	180

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-I Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Pre- Deepawali Day 2014 - 2017 in Rajasthan														
S.No.	Cities	Location	2014*			2015*			2016*			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
22.	Kota	Borkhera	06	34	50	07	32	127	06	24	278	06=	24=	192↓
23.		M.C. Rampura	06	40	71	08	40	115	07	19	273	08↑	21↑	120↓
24.		R.O. RSPCB	06	34	86	08	37	176	08	25	70	09↑	22↓	162↑
25.		Common STP Balita	-	-	-	-	-	-	07	22	76	07=	22=	124↑
26.		Rajasthan Technical University	-	-	-	-	-	-	09	24	59	09=	23↓	54↓
27.		S.N. Puram	-	-	-	-	-	-	08	20	98	08=	21↑	90↓
28.	Udaipur	Town Hall	07	35	75	08	28	104	08	29	60	07↓	42↑	108↑
29.		Amba Mata, P.Chowki	06	29	94	06	26	100	06	27	52	06=	38↑	82↑
30.		R.O. RSPCB	07	35	243	06	35	266	06	36	263	07↑	38↑	183↓
31.	Sikar	R.O. RSPCB	-	-	-	-	-	129	06	22	-	BDL↓	22=	165
32.		Piprali Road	-	-	-	-	-	-	-	-	-	BDL	23	177
33.	Bhiwadi	RO RSPCB	-	-	-	09	31	218	-	-	-	12	28	376
34.		UIT Guest House	-	-	-	-	-	-	-	-	-	12	29	307
35.		Uttam Strips	-	-	-	-	-	-	-	-	-	13	30	259
36.	Bharatpur	RO, RSPCB	-	-	-	-	-	-	-	-	-	07	20	145
37.		RIICO Ofc, Building	-	-	-	-	-	-	-	-	-	08	26	204
38.		Khadi Gramodyog Samiti	-	-	-	-	-	-	-	-	-	07	28	234

*this data came this year with report 2017

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Rajasthan														
S.No.	Cities	Location	2014*			2015*			2016*			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Jaipur	Jhalana (R)	08	48	231	10	54	330	10	46	265	10=	45↓	245↓
2.		RO, Jaipur (R)	12	53	359	13	32	446	13	52	351	14↑	53↑	331↓
3.		Ajmeri Gate (R)	10	52	280	11	54	326	12	53	345	11↓	54↑	324↓
4.		Chandpole (R)	12	62	399	12	64	411	13	61	442	14↑	61=	483↑
5.		V.K.I.A (I)	12	62	374	13	64	436	13	63	457	14↑	64↑	496↑
6.		M.I.A (I)	09	51	126	10	53	216	11	52	255	11=	52=	270↑
7.		Sitapura (I)	-	-	-	-	-	-	-	-	-	12	51	290
8.		Bacees Godam (I)	-	-	-	-	-	-	-	-	-	10	45	232
9.		Mansarovar (R)	-	-	-	-	-	-	-	-	-	12	43	222
10.	Alwar	RO, RSPCB	12	27	354	07	30	143	08	32	155	08=	34↑	158↑
11.		Gaurav Soves	-	-	-	07	29	251	08	32	162	09↑	35↑	134↓
12.		RILCO Pump House	-	-	-	08	35	159	09	33	165	09=	39↑	278↑
13.	Jodhpur	District Industrial Copn.	12	31	237	31	31	149	15	36	270	12↓	24↓	616↑
14.		Housing Board	17	30	316	35	35	185	16	33	234	16=	29↓	731↑
15.		Mahamandir P. Station	10	38	288	40	40	159	17	30	262	09↓	25↓	403↑
16.		RO RSPCB, Jodhpur	10	29	154	34	34	185	26	39	257	25↓	22↓	362↑
17.		Shastri Nagar P. Station	17	39	360	40	40	203	22	41	298	26↑	32↓	588↑
18.		Sojati Gate	28	36	379	48	48	179	19	40	337	38↑	46↑	634↑
19.		Sangaria P. Sub Station	-	-	-	-	-	-	-	-	-	23	23	573
20.		Kudi Bhagtasni P. Station	-	-	-	-	-	-	-	-	-	42	26	734
21.		Soor Sagar P. Station	-	-	-	-	-	-	-	-	-	10	24	360

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Rajasthan														
S.No.	Cities	Location	2014*			2015*			2016*			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
22.	Kota	Borkhera	07	36	230	09	46	180	07	38	306	07=	41↑	199↓
23.		M.C. Rampura	09	41	288	09	52	293	07	43	328	08↑	39↓	222↓
24.		R.O. RSPCB	09	44	178	09	44	223	07	46	214	08↑	44↓	182↑
25.		Common STP Balita	-	-	-	-	-	-	07	22	76	07=	38↑	207↑
26.		Rajasthan Technical University	-	-	-	-	-	-	06	31	131	06=	30↓	167↑
27.		S.N. Puram	-	-	-	-	-	-	06	32	293	07↑	34↑	144↓
28.	Udaipur	Town Hall	09	39	248	11	44	273	11	45	205	10↓	54↑	166↓
29.		Amba Mata, P.Chowki	09	39	140	09	48	204	09	53	143	06↓	42↓	183↑
30.		R.O. RSPCB	08	37	236	12	41	336	13	42	229	07↓	39↓	202↓
31.	Sikar	R.O. RSPCB	-	-	-	-	-	-	08	30	184	06↓	28↓	200↑
32.		Piprali Road	-	-	-	-	-	-	-	-	-	07	31	245
33.	Bhiwadi	RO RSPCB	-	32	197	07	-	-	-	-	-	14	29	350
34.		UIT Guest House	-	-	-	-	-	-	-	-	-	13	29	353
35.		Uttam Strips	-	-	-	-	-	-	-	-	-	14	31	404
36.	Bharatpur	RO, RSPCB	-	-	-	-	-	-	-	-	-	07	25	276
37.		RIICO Ofc, Building	-	-	-	-	-	-	-	-	-	07	23	203
38.		Khadi Gramodyog Samiti	-	-	-	-	-	-	-	-	-	08	30	305

*this data came this year with report 2017

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq dB(A) at different locations on Pre-Deepawali Day 2014 - 2017 in Rajasthan						
S.No.	City	Location	2014*	2015*	2016*	2017
1.	Jaipur	Gandhi Nagar (R)	67	68	61	59↓
2.		Jawahar Nagar (R)	61	55	59	67↑
3.		Raja Park (C)	74	73	64	67↑
4.		Mansarovar (C)	-	-	70	64↓
5.		SDM Hospital (S)	74	70	68	79↑
6.		Civil Line (S)	63	62	62	67↑
7.	Ajmer	Kutchery Road (R)	-	-	60	63↑
8.	Bhilwara	Azad Nagar (R)	-	-	-	66
9.		Kumbha Circle Azad Ngr (C)	-	-	67	66↓
10.	Pali	Maharaja Shree Umed Mills (R)	63	54	69	62↓
11.		Surajpol, Townhall (C)	-	-	67	68↑
12.		Bangur Hospital (S)	-	-	61	48↓
13.	Bikaner	Junagarh (C)	77	74	73	73=
14.	Jodhpur	Shashtri Ngr P.Station (C)	65	67	65	68↑
15.		Maha Mandir Police Station (R)	73	63	68	72↑
16.	Kota	MBS Hospital (S)	52	68	61	68↑
17.		Dadawada (R)	59	-	50	56↑
18.		Gumanpura(C)	-	-	66	66=
19.	Udaipur	Pole Gate (C)	68	75	72	77↑
20.		M.B. Hospital (S)	58	58	65	69↑
21.		Amba Mata Scheme (R)	68	63	72	65↓
22.	Alwar	Kala Kuan (R)	64	61	57	65↓
23.		General Hospital (S)	-	-	60	57↓
24.		Hope Circus (C)	-	-	64	67↑
Contd.						

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table- IV Noise Level in Leq dB(A) at different locations on Pre-Deepawali Day 2014 - 2017 in Rajasthan						
S.No.	City	Location	2014*	2015*	2016*	2017
25.	Bhiwadi	Ashiana Garden Society (R)	-	-	-	57
26.		Star Hospital (S)	-	-	-	70
27.		Central Market (C)	-	-	73	71↓
28.	Sikar	Nawalgarh Road	-	-	58	61↑
29.	Chitorgarh	Public Park (C)	-	-	68	66↓
30.		Guard Ofc. Kumbha	-	-	71	66↓
31.	Bharatpur	Iaxmi Mandir Shouwk (C)	-	-	-	63
32.	Balotra	Maheshwari railway Crossing (C)	-	-	-	55
*this data came this year with report 2017						

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014 - 2017 in Rajasthan						
S.No.	City	Location	2014*	2015*	2016*	2017
1.	Jaipur	Gandhi Nagar (R)	75	77	79	72↓
2.		Jawahar Nagar (R)	73	81	87	79↓
3.		Raja Park (C)	81	79	73	75↑
4.		Mansarovar (C)	-	-	-	79
5.		SDM Hospital (S)	73	74	72	81↑
6.		Civil Line (S)	72	68	72	75↑
7.	Ajmer	Kutchery Road (R)	-	-	68	75↑
8.	Bhilwara	Azad Nagar (R)	-	-	73	87↑
9.		Kumbha Circle Azad Nagar (C)	-	-	-	84
10.	Pali	Maharaja Shree Umed Mills (R)	79	66	92	78↓
11.		Surajpol, Townhall (C)	-	-	71	87↑
12.		Bangur Hospital (S)	-	-	74	65↓
13.	Bikaner	Junagarh (C)	76	81	80	82↑
14.	Jodhpur	Shashtri Ngr P.Station (C)	73	76	86	73↓
15.		Maha Mandir Police Station (R)	76	88	85	80↓
16.	Kota	MBS Hospital (S)	63	70	65	65=
17.		Dadawada (R)	65	-	35	70↑
18.		Gumanpura (C)	-	-	85	78↓
19.	Udaipur	Pole Gate (C)	85	79	86	87↑
20.		M.B. Hospital (S)	66	73	71	77↑
21.		Amba Mata Scheme (R)	81	88	77	73↓
Contd.						

Ambient Air Quality and Noise Levels on Deepawali festival

**Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day
2014 - 2017 in Rajasthan**

S.No.	City	Location	2014*	2015*	2016*	2017
22	Alwar	Kala Kuan (R)	83	76	75	78↑
23		General Hospital (S)	-	-	76	75↓
24		Hope Circus (C)	-	-	94	82↓
25	Bhiwadi	Ashiana Garden Society (R)	-	-	-	80
26		Star Hospital (S)	-	-	-	77
27		Central Market (C)	-	-	79	80↑
28	Sikar	Nawalgarh Road	-	-	67	67=
29	Chitorgarh	Public Park (C)	-	-	79	77↓
30		Guard Ofc. Kumbha	-	-	81	84↑
31	Bharatpur	Iaxman Mandir Chowk (C)	-	-	-	69
32	Balotra	Maheshwari railway Crossing (C)	-	-	-	71

*this data came this year with report 2017

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Tamil Nadu

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Chennai	20	19	193	11	20	106	11	18	150	15↑	22↑	566↑
2.	Vellore	14	25	117	12	19	80	12	28	142	09↓	35↑	211↑
3.	Cuddalore	10	29	76	11	26	94	18	23	50	21↑	25↑	55↑
4.	Salem	12	34	160	11	35	155	11	41	144	17↑	46↑	159↑
5.	Trippur	16	36	134	21	28	153	17	17	87	33↑	33↑	66↓
6.	Coimbatore	04	23	93	19	34	194	07	36	82	11↑	30↓	102↑
7.	Trichy	22	25	107	18	22	96	22	28	113	20↓	24↓	125↑
8.	Dindigul	14	22	86	11	15	108	12	21	159	22↑	32↑	158↓
9.	Madurai	15	22	93	22	16	123	16	22	80	16=	25↑	74↓
10.	Tirunelveli	29	55	45	64	75	104	14	23	121	18↑	26↑	94↓
11.	Hosur	-	-	-	-	-	-	26	32	81	47↑	61↑	75↓
12.	Thoothukudi	-	-	-	-	-	-	16	22	202	20↑	15↓	132↓

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Tamil Nadu						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Chennai	Triplicane (R)	70	66	75	64↓
2.		Besant Nagar (R)	61	76	57	62↑
3.		Nungambakkam (R)	64	71	69	73↑
4.		Sowcarpt (M)	79	64	64	69↑
5.		T. Nagar (C)	75	75	60	64↑
6.	Vellore	Gandhi Nagar (R)	66	62	57	58↑
7.	Cuddalore	Imperial Road (C)	75	76	76	77↑
8.		Pudupalayam Village (R)	-	-	65	66↑
9.	Salem	Sri Saradha Balamandhir (R)	51	60	64	62↑
10.		Silva Tower, Meyyanur Main Road (R)	61	63	67	67=
11.		Salem Sowdeswari college (M)	-	-	-	59
12.	Trippur	Kumaran Complex (C)	61	65	57	63↑
13.		Rayapuram (R)	68	70	56	62↑
14.	Coimbatore	District Collectorate (M)	67	59	53	64↑
15.		Kavundamapalayam (R)	72	57	67	63↓
16.	Trichy	Thillai Nagar (R)	67	66	61	62↑
17.	Dindigul	Nagal Pudhur (R)	-	67	58	53↓
18.		Rajagopal (M)	-	62	74	74=
19.	Madurai	Thirunagar (R)	59	69	58	66↑
20.		K. Pudur (S)	-	-	69	80↑
21.		Madurai Corporation South (M)	70	72	63	66↑
23.	Tirunelveli	Tirunelveli Town (R)	82	61	-	59
25.		Vannarpettai (C)	-	-	-	59
26.	Hosur	Devaki Nurshing Home (C)	-	-	72	Rain
27.		INEL Transit House (R)	-	-	63	Rain
28.		ESI Hospital (S)	-	-	59	Rain
29.	Thoothukudi	Krishnarajapuram	-	-	48	49↑

Ambient Air Quality and Noise Levels on Deepawali festival

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Tamil Nadu						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Chennai	Triplicane (R)	86	84	90	86↓
2.		Besant Nagar (R)	78	87	73	73=
3.		Nungambakkam (R)	87	82	84	80↓
4.		Sowcarpt (M)	84	79	80	72↓
5.		T. Nagar (C)	81	82	82	81↓
6.	Vellore	Gandhi Nagar (R)	83	85	78	68↓
7.	Cuddalore	Imperial Road (C)	76	77	80	80=
8.		Pudupalayam Village(R)	-	-	72	75↑
9.	Salem	Sri Saradha Balamandhir (R)	81	68	80	82↑
10.		Silva Tower, Meyyanur Main Road(R)	74	78	79	80↑
11.		Salem Sowdeswari college (M)	-	-	-	73
12.	Trippur	Kumaran Complex (C)	65	65	65	64↓
13.		Rayapuram- (R)	79	71	70	90↑
14.	Coimbatore	District Collectorate (M)	-	-	-	67
15.		Kavundamapalayam(R)	-	-	-	76
16.	Trichy	Thillai Nagar (R)	84	90	88	90↑
17.	Dindigul	Nagal Pudhur(R)	-	77	78	69↓
18.		Rajagopal (M)	-	74	75	74↓
19.	Madurai	Thirunagar (R)	84	84	80	74↓
20.		K. Pudur (S)	82	77	78	76↓
21.		Madurai Corporation South (M)	87	73	71	75↑
22.	Tirunelveli	Pettai Nearer to nursing home (S)	90	85	75	78↑
23.		Vannarpettai (C)	-	-	-	85
24.	Hosur	Devaki Nurshing Home (C)	-	-	80	80=
25.		INEL Transit House (R)	-	-	87	86↓
26.		ESI Hospital (S)	-	-	79	79=
27.	Thoothukudi	Cellseeni Colony (C)	-	-	-	62

Ambient Air Quality and Noise Levels on Deepawali festival

Telangana

Observations - In this State, Ambient Air Quality monitoring carried out in thirty locations in eight cities at and the Noise monitoring carried in the nine cities at thirty-three locations.

The pre- deepawali day PM₁₀ ranged between 33 and 129 µg/m³, while same on the festival day ranged between 57 and 207µg/m³. The maximum value of

207µg/m³ was reported at **Jubile Hills, Hyderabad** on the festival day. The pre-deepawali day Noise level range between 50 and 84 Leq.dB(A), while same on the festival day noise level ranged between 54 and 100 Leq.dB(A). The maximum value of 100 Leq.dB(A). was reported at **Godavarikhani, Warangal** on the festival day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2015 - 2017 in Telangana

S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Hyderabad	Abids	BDL	18	18	05	32	92	BDL↓	22↓	63↓
2.		Paradise	BDL	44	184	05	29	99	05=	32↑	80↓
3.		Charminar	BDL	24	120	05	31	109	05=	37↑	75↓
4.		Balanagar	BDL	27	183	05	29	105	BDL↓	27↓	102↓
5.		Uppal	BDL	18	53	05	33	115	05=	28↓	73↓
6.		Jubile Hills	05	16	58	05	30	94	BDL↓	24↓	84↓
7.		Jeedimetla	BDL	16	106	05	30	109	BDL↓	35↑	103↓
8.		JNTU-Kukatpally	05	13	222	05	35	98	05=	31↓	68↓
9.		BPPA	-	-	-	05	26	97	BDL↓	21↓	50↓
10.		KBRN	-	-	-	05	27	91	BDL↓	18↓	52↓
11.		Chikkadpally	-	-	-	05	31	102	BDL↓	25↓	59↓
12.		Langar house	-	-	-	05	35	88	05=	27↓	72↓
13.	Hyderabad	Madhapur	-	-	-	BDL	26	83	BDL	19↓	66↓
14.		MGBS	-	-	-	05	28	87	BDL↓	24↓	61↓
15.		Nacharam	-	-	-	05	26	110	BDL↓	25↓	87↓
16.		Rajendranagar	-	-	-	05	17	73	BDL↓	16↓	33↓
17.		Sainikpuri	-	-	-	05	22	71	BDL↓	18↓	95↑

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-I Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Pre- Deepawali Day 2015 - 2017 in Telangana											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
18.	Warangal	Kuda Office	-	-	-	08	26	64	09↑	21↓	51↓
19.		E Seva	-	-	-	08	25	89	13↑	21↓	52↓
20.		TSPCB Office Premises	-	-	-	07	24	70	07=	17↓	55↓
21.		Kendram	-	-	-	-	-	-	15	16	42
22.	Karimnagar	DIC Building	-	-	-	06	22	66	06=	14↓	51↓
23.		Municipal Complex	-	-	-	-	-	-	09	28	52
24.	Khamman	Jalasouda Buliding	-	-	-	07	27	41	07=	22↓	77↑
25.	Kothagudem	CER Club	-	-	-	07	23	65	07=	21↓	64↓
26.	R.C.Puram	R.C. Puram	-	-	-	06	24	62	06=	22↓	48↓
27.		Boollaram Village	-	-	-	10	26	138	08↓	26=	129↓
28.	Nizamabad	Shanathi Nagar	-	-	-	05	24	61	BDL↓	25↑	35↓
29.	Nalgonda	RO Building	-	-	-	-	-	-	06	20	61
30.		Subashnagar Location 1	-	-	-	06	24	85	06=	21↓	58↓

Ambient Air Quality and Noise Levels on Deepawali festival

Table- II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2015 - 2017 in Telangana											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Hyderabad	Abids	BDL	19	243	07	31	160	07=	26↓	139↓
2.		Paradise	BDL	15	171	08	27	134	06↓	38↑	133↓
3.		Charminar	BDL	36	259	10	33	182	06↓	41↑	191↑
4.		Balanagar	BDL	36	259	08	44	155	06↓	38↓	175↑
5.		Uppal	BDL	36	164	10	33	159	06↓	53↑	185↑
6.		Jubile Hills	05	26	171	09	25	146	06↓	31↑	207↑
7.		Jeedimetla	BDL	20	215	08	33	177	06↓	36↑	147↓
8.		JNTU-Kukatpally	13	35	412	09	36	164	07↓	40↑	189↑
9.		BPPA	-	-	-	09	29	110	05↓	21↓	162↑
10.		KBRN	-	-	-	08	30	132	06↓	21↓	95↓
11.		Chikkadpally	-	-	-	10	34	133	07↓	26↓	172↑
12.		Langarhouse	-	-	-	09	38	165	06↓	31↓	176↑
13.		Madhapur	-	-	-	07	24	134	06↓	20↓	88↓
14.		MGBS	-	-	-	09	32	126	07↓	35↑	202↑
15.		Nacharam	-	-	-	11	42	147	06↓	25↓	187↑
16.		Rajendranagar	-	-	-	09	25	89	05↓	21↓	57↓
17.		Sainikpuri	-	-	-	09	29	164	05↓	22↓	134↓

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table- II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2015 - 2017 in Telangana											
S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
18.	Warangal	Kuda Office	-	-	-	09	37	110	10↑	27↓	85↓
19.		E Seva	-	-	-	09	38	100	18↑	31↓	88↓
20.		TSPCB Office Premises	-	-	-	10	37	100	08↓	25↓	74↓
21.		Kendram	-	-	-	-	-	-	16	16	122
22.	Karimnagar	DIC Building	-	-	-	06	24	80	12↑	29↑	110↑
23.		Municipal Complex	-	-	-	-	-	-	10	37	78
24.	Khamman	Jalasouda Buliding	-	-	-	07	30	72	15↑	39↑	143↑
25.	Kothagudem	CER Club	-	-	-	06	28	84	16↑	34↑	82↓
26.	R.C.Puram	R.C. Puram	-	-	-	06	30	76	10↑	31↑	110↑
27.		Boollaram Village	-	-	-	16	33	162	14↓	33=	162=
28.	Nizamabad	Shanthi Nagar	-	-	-	09	31	85	BDL↓	34↑	110↑
29.	Nalgonda	Subash Nagar Location-1	-	-	-	11	31	113	11=	30↓	82↓
30.		RO Building	-	-	-	-	-	-	10	29	94

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015 - 2017 in Telangana					
S.No.	Cities	Locations	2015	2016	2017
1.	Hyderabad	Abids (C)	77	72	66↓
2.		JNTU - Kukatpally (C)	69	68	66↓
3.		Sanathanagar (C)	-	69	66↓
4.		Gachibowli (R)	53	53	50↓
5.		Jubilee Hills (R)	59	59	57↓
6.		Pragathi Nagar (R)	58	64	58↓
7.		Tarnaka (R)	56	57	50↓
8.		Uppal (I)	69	68	58↓
9.		Jeedimetla (I)	64	61	71↑
10.		Zoopark (S)	52	52	51↓
11.	Warangal	TSPCB Office Premises (R)	-	71	71=
12.		Meeseva Kendram(C)	-	63	72↑
13.		Kuda Oficem (S)	-	63	58↓
14.		NTPC Ltd. (NA)	-	52	52=
15.		Godavarikhani (NA)	-	53	52↓
16.	Karimnagar	Padmanagar (R)	-	60	75↑
17.		Bus stand area (C)	-	68	75↑
18.		Court Area (S)	-	68	72↑
19.	Khammam	Mayuri Centre (C)	-	85	84↓
20.		Govt. Hospital (S)	-	67	70↑
21.		Bank colony (R)	-	55	69↑
22.	Kathagudem	Post Office Centre (C)	-	80	75↓
23.		Govt. Hospital, (S)	-	63	73↑
24.		Ganesh Basti (R)	-	74	79↑
25.	Nalgonda	Nalgonda (c)	-	77	66↓
26.		Nalgonda (R)	-	-	52
Contd.					

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2015 - 2017 in Telangana					
S.No.	Cities	Locations	2015	2016	2017
27.	R.C.Puram	R.C.Puram (C)	-	67	65↓
28.		Sai Colony Beeram guda (R)	-	61	71↑
29.		Beeramguda arch (C)	-	88	71↓
30.		Bollaram Village (R)	-	77	69↓
31.	Nizamabad	Subhash Nagar (R)	-	65	58↓
32.		Subhash Nagar (C)	-	65	65=
33.	Sangareddy	Shanthi Nagar(R)	-	74	71↓

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 - 2017 in Telangana					
S.No.	Cities	Locations	2015	2016	2017
1.	Hyderabad	Abids (C)	88	82	75↓
2.		JNTU - Kukatpally (C)	74	73	69↓
3.		Sanathanagar (C)	-	74	70↓
4.		Gachibowli (R)	61	61	54↓
5.		Jubilee Hills (R)	74	72	73↑
6.		Pragathi Nagar (R)	81	70	72↑
7.		Tarnaka (R)	75	73	66↓
8.		Uppal (I)	87	88	80↓
9.		Jeedimetla (I)	69	68	79↑
10.		Zoopark (S)	67	62	56↓
11.	Warangal	TSPCB Office Premises (R)	-	100	98↓
12.		Meeseva Kendram (C)	-	95	96↑
13.		Kuda Office (S)	-	85	97↑
14.		NTPC	-	-	89
15.		Godavarikhani	-	-	100

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2015 - 2017 in Telangana					
S.No.	Cities	Locations	2015	2016	2017
16.	Karimnagar	Padmanagar (R)	-	99	93↓
17.		Bus stand area (C)	-	93	97↑
18.		Court Area (S)	-	115	79↓
19.	Khammam	Mayuri Centre (C)	-	102	96↓
20.		Govt. Hospital (S)	-	86	81↓
21.		Bank colony (R)	-	101	92↓
22.	Kathagudem	Post Office Centre (C)	-	100	91↓
23.		Govt. Hospital (S)	-	94	85↓
24.		Ganesh Basti (R)	-	99	93↓
25.	R.C.Puram	R.C.Puram (C)	-	75	67↓
26.		Sai Colony Beeramguda (R)	-	73	82↑
27.		Beeramguda arch (C)	-	84	95↑
28.		Bollaram Village (R)	-	114	89↓
29.	Nizamabad	Subhash Nagar (R)	-	91	82↓
30.		Subhash Nagar (C)	-	91	92↑
31.	Sangareddy	Shanthi Nagar (R)	-	96	95↓
32.	Nalgonda	Nalgonda (C)	-	94	98↑
33.		Nalgonda (S)	-	-	61

Ambient Air Quality and Noise Levels on Deepawali festival

Tripura

Observations - In this State, Ambient Air Quality monitoring carried out in five locations in five cities at and the Noise monitoring carried in four cities at twenty-seven locations.

The pre-deepawali day PM₁₀ ranged between 48 and 112µg/m³, while same on the festival day ranged between 59 and 76µg/m³. The maximum value of

76µg/m³ was reported at Bipani Bitan, Bordowali on the pre-deepawali day. The pre-deepawali day Noise level range between 45 and 75Leq.dB(A), while same on the festival day noise level ranged between 46 and 75Leq.dB(A). The maximum value of 75Leq.dB(A) was reported at Ashram Chowmuhani(C) and Battala (C), Agartala both festival day and pre-deepawali day.

Table-I Ambient Air Quality Levels in (µg/m³) on Pr- Deepawali Day 2015 - 2017 in Tripura

S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Dharmanagar	Motor Stand	37	35	64	33	27	61	35↑	36↑	48↓
2.	Ambassa	Ambassa Bazar	36	34	77	27	28	68	18↓	22↓	58↓
3.	Agartala	Kunjaban at TSPCB Office Complex	34	32	92	25	27	90	17↓	20↓	73↓
4.	Udaipur	Nagar Panchayat Office	32	30	61	26	25	69	31↑	40↑	51↓
5.	Bordowali	Bipani Bitan	-	-	-	-	-	-	37	48	112

Table-II Ambient Air Quality Levels in (µg/m³) on Deepawali Day 2015 - 2017 in Tripura

S.No.	Cities	Locations	2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Dharmanagar	Motor Stand	39	37	62	36	31	63	35↓	46↑	63=
2.	Ambassa	Ambassa Bazar	38	36	86	33	30	75	25↓	33↑	72↓
3.	Agartala	Kunjaban at TSPCB Office Complex	37	34	152	29	29	95	16↓	19↓	59↓
4.	Udaipur	Nagar Panchayat Office	34	32	53	29	29	75	38↑	43↑	68↓
5.	Bordowali	Bipani Bitan	-	-	-	-	-	-	22	28	76

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre-Deepawali Day 2014-2017 in Tripura						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Dharmangar	Railway Stataion (C)	53	53	56	60↑
2.		Dharmanagar circuit house (R)	49	48	46	48↑
3.		SDM and judges quarter (R)	61	64	60	64↑
4.		Hospital Area (S)	54	55	46	48↑
5.		D.N. Vidyamandir (S)	58	59	59	64↑
6.	Ambassa	Kulai District Hospital (C)	49	50	43	50↑
7.		Bhawaliya Basti (R)	49	53	47	52↑
8.		Dalubari Gate (S)	62	62	47	51↑
9.		Ambassa Bazar (S)	64	62	52	61↑
10.		Kuali Bazar (C)	-	-	54	61↑
11.	Agartala	Ashram chowmuhani (C)	68	68	63	58↓
12.		Capital complex (R)	60	67	51	53↑
13.		Circuit House (R)	52	69	47	53↑
14.		Indranagar (R)	58	66	59	56↓
15.		G.B Hospital (S)	55	67	59	54↓
16.		M.B.B. Collage (S)	45	63	49	45↓
17.		Battala (C)	72	73	77	75↓
18.		Astabal (C)	60	64	65	58↓
19.		Duraga Chowmuhani (C)	66	70	68	67↓
20.		Netaji Chowmuhani (C)	66	77	70	60↓
21.		A. D. Nagar (R)	51	52	59	48↓
22.		I.G.M Hospital (S)	49	51	63	63=
23.	Udaipur	Brahmabari (C)	62	59	64	59↓
24.		Bridge Chowmuhani (R)	65	54	59	54↓
25.		West Bank of Amar Sagar (R)	57	49	58	55↓
26.		Hospital Area (S)	55	46	53	49↓
27.		Matabari	-	-	53	52↓

Ambient Air Quality and Noise Levels on Deepawali festival

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Tripura						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Dharmangar	Railway Stataion (C)	72	69	67	65↓
2.		Dharmanagar circuit house (R)	60	52	56	73↑
3.		SDM and judges quarter (R)	71	74	72	67↓
4.		Hospital Area (S)	57	89	55	53↓
5.		D.N. Vidyamandir (S)	66	76	72	64↓
6.	Ambassa	Kulai District Hospital (C)	54	51	51	46↓
7.		Bhawaliya Basti (R)	59	55	51	57↑
8.		Dalubari Gate (S)	75	63	57	54↓
9.		Ambassa Bazar (S)	73	72	72	65↓
10.		Kuali Bazar (C)	-	-	66	60↓
11.	Agartala	Ashram Chowmuhani (C)	72	87	75	75=
12.		Capital complex (R)	57	59	56	48↓
13.		Circuit House (R)	69	76	54	65↑
14.		Indranagar (R)	63	76	71	66↓
15.		G.B Hospital (S)	67	68	57	61↑
16.		M.B.B. Collage (S)	59	64	53	56↑
17.		Battala (C)	72	78	71	69↓
18.		Astabal (C)	65	75	65	61↓
19.		Duraga Chowmuhani (C)	76	81	67	71↑
20.		Netaji Chowmuhani (C)	75	88	78	62↓
21.		A. D. Nagar (R)	68	74	65	62↓
22.		I.G.M Hospital (S)	61	66	61	60↓
23.	Udaipur	Brahmabari (C)	76	68	68	68=
24.		Bridge Chowmuhani (R)	71	65	65	70↑
25.		West Bank of Amar Sagar (R)	64	62	66	64↓
26.		Hospital Area (S)	59	58	53	50↓
27.		Matabari	-	-	69	72↑

Ambient Air Quality and Noise Levels on Deepawali festival

Uttar Pradesh

Observations - In this State, Ambient Air Quality monitoring carried out in twenty cities and the Noise monitoring was carried out in the twenty cities at forty-three locations.

The pre- deepawali day PM₁₀ ranged between 87 and 360 µg/m³, while same on the festival day ranged between 140 and 514 µg/m³. The maximum value of

514µg/m³ was reported at Bareilly city on the festival day. The pre- deepawali day noise level range between 43 and 82 Leq.dB(A), while same on the festival day noise level ranged between 54 and 96 Leq.dB(A). The maximum value of 96Leq.dB(A) was reported at Baldevpuri (S), Mathura on the festival day.

Table-I Ambient Air Quality Levels in (µg/m ³) on Pre- Deepawali Day 2014 - 2016 in Uttar Pradesh													
S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Agra	11	20	153	BDL	27	225	BDL	33	209	06↑	18↓	187↓
2.	Lucknow	05	29	139	BDL	29	256	BDL	34	255	06↑	20↓	183↓
3.	Unnao	-	-	-	-	-	-	10	29	152	10=	29=	152=
4.	Faizabad	-	-	-	-	-	118	-	-	88	-	-	87↓
5.	Varanasi	-	-	-	-	-	-	09	35	318	25↑	30↓	132↓
6.	Gorakh Pur	18	30	81	19	30	86	20	31	93	07↓	22↓	150↑
7.	Kanpur	-	-	-	-	-	-	07	56	310	07=	43↓	292↓
8.	Jhansi	-	-	64	-	-	65	-	-	67	07	-	92↑
9.	Allahabad	-	-	-	-	-	-	12	52	188	15↑	30↓	124↓
10.	Moradabad	Previous years data not available									28	45	209
11.	Noida										17	40	229
12.	Rai Bareli										09	14	130
13.	Bareilly										18	24	187
14.	Saharanpur										25	32	169
15.	Sonebhadra										12	28	126
16.	Meerut										31	36	121
17.	Ghaziabad										20	38	360
18.	Mathura										11	24	231
19.	Bulandshar										-	-	193
20.	Aligarh	-	-	236									

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Ambient Air Quality Levels in ($\mu\text{g}/\text{m}^3$) on Deepawali Day 2014 - 2017 in Uttar Pradesh													
S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Agra	25	33	465	BDL	26	321	BDL	17	342	08↑	21↑	288↓
2.	Lucknow	16	56	412	07	40	316	12	49	753	12=	31↓	285↓
3.	Unnao	-	-	-	-	-	-	12	34	183	11↓	32↓	181↓
4.	Faizabad	-	-	-	-	-	178	-	-	159	-	-	156=
5.	Varanasi	-	-	-	-	-	-	21	45	492	10↓	22↓	144↓
6.	Gorakh Pur	22	35	95	22	36	102	24	37	105	38↑	28↓	290↑
7.	Kanpur	-	-	-	-	-	-	15	66	546	08↓	50↓	367↓
8.	Jhansi	-	-	247	-	-	181	-	-	105	-	-	212↑
9.	Allahabad	07	44	266	-	-	-	23	66	252	11↓	35↓	160↓
10.	Moradabad	Previous years data not available									40	48	316
11.	Noida										22	52	-
12.	Rai Bareli										15	23	209
13.	Bareilly										33	55	514
14.	Saharanpur										31	44	306
15.	Sonebhadra										21	34	140
16.	Meerut										12	52	152
17.	Ghaziabad										78	67	414
18.	Mathura										13	30	419
19.	Bulandshar										-	-	273
20.	Aligarh	-	-	380									

Ambient Air Quality and Noise Levels on Deepawali festival

Table-II Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Uttar Pradesh						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Agra	Kamla Nagar (R)	72	73	62	62=
2.		Bodla (R)	Previous years data not available			47
3.		Sanjai place (C)				57
4.		Tajmahal (S)				43
5.		District Hospital (S)				50
6.	Lucknow	Mayur Vihar, Indira Nagar (R)	55	60	57	58↑
7.		Vikas Khand, Gomti Nagar (R)	53	57	58	68↑
8.		Sector -11 Indira Nagar (R)	Previous years data not available			53
9.		RML Hospital, Gomti Nagar (S)				63
10.		H.O. UPPCB, Gomti Nagar (C)				62
11.		Airport Amausi (C)				59
12.		Regional Sci. Centre Aliganj (R)				76
13.		DRM Office Hazratganj (C)				58
14.		I.T College, Lucknow (C)				64
15.		DIC Office, Talkatora (I)				62
16.		SGPGI, Lucknow (S)				56
17.	Unnao	5, Krishna Ngr (R)	-	-	48	48=
18.		IBP Chauraha, Moti Nagar	-	-	67	69↑
19.	Faizabad	Offiice Building	-	70	69	60↓
20.	Jhansi	Shivaji Nagar	67	57	58	57↓
21.	Varanasi	Jawaahar Nagar	-	-	62	60↓
22.	Allahabad	Katra crossing (C)	-	-	59	56↓
23.	Kanpur	Kalyanpur	-	-	72	68↓
24.		Shastrii Nagar (R)	-	-	-	60
Contd.						

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-IV Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Uttar Pradesh						
S.No.	Cities	Locations	2014	2015	2016	2017
25.	Gorakh Pur	Avas vikas Colony (R)	61	62	60	52↓
26.		Indira Bal Vihar, Golghar (C)	Previous years data not available			78
27.		Dis. Hospital, Sadar (S)				75
28.		UPSIDC Industrial Area (I)				82
29.		Collectroete (S)				58
30.	Noida	Sector-5 (R)				60
31.	Rai Bareli	Indira Nagar (R)	54			
32.	Moradabad	Locoshed (R)	46			
33.		Budhi Vihar	61			
34.	Bareilly	Subhash Nagar (R)	50			
35.		Shyam Ganj (C)	76			
36.		Distict Hospital (S)	65			
37.	Meerut	Pallav Puram (R)	57			
38.	Aligarh	Gyan Sarovar (R)	59			
39.		Center Point Chauraha (C)	72			
40.		AMU Campus (S)	55			
41.	Ghaziabad	East Model Town (R)	60			
42.	Mathura	Baldevpuri (S)	74			
43.	Saharanpur	Chander Nagar (R)	63			
44.	Sonebhadra	New market Robertganj (C)	59			
45.	Bulandshar	Yamuna Puram (R)	60			
46.	Firozabad	Suhag Nagar (R)	56			
47.		District Hospital(S)	74			
48.		Ghantaghar (C)	63			

Ambient Air Quality and Noise Levels on Deepawali festival

Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Uttar Pradesh						
S.No.	Cities	Locations	2014	2015	2016	2017
1.	Agra	Kamla Nagar(R)	92	94	77	81↑
2.		Bodla (R)	Previous years data not available			79
3.		Sanjai place (C)				77
4.		Tajmahal (S)				55
5.		District Hospital (S)				63
6.	Lucknow	Mayur Vihar, Indira Nagar (R)	79	64	83	82↓
7.		Vikas Khand, Gomti Nagar (R)	79	78	71	62↓
8.		Sector -11 Indira Nagar (R)	Previous years data not available			79
9.		RML Hospital, Gomti Nagar (S)				75
10.		H.O. UPPCB, Gomti Nagar (C)				62
11.		Airport Amausi (C)				68
12.		Regional Sci. Centre Aliganj (R)				70
13.		DRM Office Hazratganj (C)				73
14.		I.T College, Lucknow (C)				70
15.		DIC Office, Talkatora (I)				65
16.		SGPGI, Lucknow (S)				62
17.	Unnao	5, Krishna Nagar (R)	-	-	65	66↑
18.		IBP Chauraha, Moti Nagar	-	-	74	74=
19.	Faizabad	Office Building	-	80	81	88↑
20.	Jhansi	Shivaji Nagar	79	64	68	67↓
21.	Varanasi	Jawaahar Nagar	-	-	78	74↓
22.	Allahabad	Katra crossing (C)	-	-	70	66↓
23.	Kanpur	Kalyanpur	-	-	91	72↓
24.		Shastrii Nagar (R)	-	-	-	63

Contd.

Ambient Air Quality and Noise Levels on Deepawali festival

Contd. Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in Uttar Pradesh						
S.No.	Cities	Locations	2014	2015	2016	2017
25.	Gorakh Pur	Avas vikas Colony (R)	89	85	87	52↓
26.		Indira Bal Vihar, Golghar (C)	Previous years data not available			78
27.		Dis. Hospital, Sadar (S)				75
28.		UPSIDC Industrial Area (I)				82
29.		Collectroete (S)				58
30.	Noida	Sector-5 (R)				68
31.	Rai Bareli	Indira Nagar (R)				68
32.	Moradabad	Locoshed (R)				70
33.		Budhi Vihar				68
34.	Bareilly	Subhash Nagar (R)				80
35.		Shyam Ganj (C)				75
36.		Distict Hospital (S)	59			
37.	Meerut	Pallav Puram (R)	72			
38.	Aligarh	Gyan Sarovar (R)	77			
39.		Center Point Chauraha (C)	80			
40.		AMU Campus (S)	62			
41.	Ghaziabad	East Model Town (R)	68			
42.	Mathura	Baldevpuri (S)	96			
43.	Saharanpur	Chander Nagar (R)	75			
44.	Sonebhadra	New market, Robertganj (C)	79			
45.	Bulandshar	Yamuna Puram (R)	76			
46.	Firozabad	Suhag Nagar(R)	73			
47.		District Hospital(S)	54			
48.		Ghantaghar©	71			

Ambient Air Quality and Noise Levels on Deepawali festival

Uttarakhand

Observations - In this State, Ambient Air Quality monitoring carried out in Dehradun city and the Noise monitoring carried out in twelve locations at Same city. The pre- deepawali day PM₁₀ value 140 µg/m³, while same on the festival day value 236 µg/m³. The maximum value of 236 µg/m³ was reported at Dehradun

city on the festival day. The pre- deepawali day Noise level range between 45 and 74 Leq.dB(A), at ISBT while same on the festival day noise level ranged between 59 and 74 Leq.dB(A). The maximum value of 74 Leq.dB (A) was reported at Vidhansabha on the festival day.

Table- I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2014 - 2017 in Uttarakhand

S.No.	Cities	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Dehradun	23	27	121	-	-	-	25	26	183	23↓	25↓	140↓

Table- II Ambient Air Quality Levels in (µg/m³) on Deepawali Day 2014 - 2017 in Uttarakhand

S.No.	City	2014			2015			2016			2017		
		SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Dehradun	29	32	286	-	-	-	27	30	288	26↓	28↓	236↓

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in Uttarakhand

S.No.	Cities	Locations	2014	2015	2016	2017
1.	Dehradun	Nehru Colony	55	-	54	54=
2.		Race Course	60	-	55	60↑
3.		Prince Chowk	70	-	70	73↑
4.		Doon Hospital	61	-	61	63↑
5.		CMI Chowk	70	-	66	66=
6.		Vidhansabha	66	-	66	69↑
7.		Vasant Vihar	59	-	48	56↑
8.		Krishan Nagar	71	-	69	73↑
9.		Clock Tower	74	-	70	71↑
10.		Saharanpur Chowk	73	-	69	71↑
11.		Ghandi Park	61	-	56	60↑
12.		ISBT	75	-	70	74↑

Ambient Air Quality and Noise Levels on Deepawali festival

**Table-IV Noise Level in Leq dB(A) at different locations on Deepawali Day
2014-2017 in Uttrakhand**

S.No.	Cities	Locations	2014	2015	2016	2017
1.	Dehradun	Nehru Colony	67	-	71	70↓
2.		Race Course	66	-	69	69=
3.		Prince Chowk	71	-	74	72↓
4.		Doon Hospital	64	-	72	59↓
5.		CMI Chowk	69	-	67	64↓
6.		Vidhansabha	69	-	68	74↑
7.		Vasant Vihar	66	-	70	66↓
8.		Krishan Nagar	75	-	72	73↑
9.		Clock Tower	75	-	72	71↓
10.		Saharanpur Chowk	74	-	75	73↓
11.		Ghandi Park	67	-	69	68↓
12.		ISBT	76	-	65	72↑

Ambient Air Quality and Noise Levels on Deepawali festival

West Bengal

Observations - In this State, Ambient Air Quality monitoring carried out in four location Kolkatta city and the Noise monitoring carried out in Kolkata city at two locations. The pre- deepawali day PM₁₀ ranged between 43 and 107µg/m³, while same on the festival day ranged between 24 and 61 µg/m³. The maximum

value of 107µg/m³ was reported at **Tollygunge** on the festival day. The pre-deepawali Noise level range between 61 and 62Leq.dB(A), while same on the festival day noise level ranged between 64 and 69Leq.dB(A). The maximum value of 69Leq.dB (A) was reported at North Kolkatta on the festival day.

Table- I Ambient Air Quality Levels in (µg/m³) on Pre- Deepawali Day 2014 - 2017 in West Bengal

S.No.	Cities	Locations	2014			2015			2016			2017		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Kolkatta	Behala	BDL	08	40	BDL	63	82	BDL	48	166	BDL	23↓	68↓
2.		Tollygunge	BDL	21	51	07	99	101	BDL	53	191	BDL	55↑	107↓
3.		Shyambazar	BDL	16	47	BDL	57	62	BDL	32	160	BDL	24↓	60↓
4.		Kasba	BDL	16	29	05	49	52	08	41	132	BDL↓	14↓	43↓

Table-II Ambient Air Quality Levels in (µg/m³) on Deepawali Day 2014 - 2017 in West Bengal

S.N o.	Cities	Locations	2014			2015			2016			2017*		
			SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀
1.	Kolkatta	Behala	BDL	34	852	06	80	>1000	BDL	27	282	BDL	20↓	61↓
2.		Tollygunge	07	56	998	05	141	>1000	BDL	53	345	BDL	48↓	58↓
3.		Shyambazar	29	36	760	33	54	477	BDL	18	243	BDL	13↓	45↓
4.		Kasba	60	50	1000	10	63	258	06	20	122	BDL↓	13↓	24↓

*Note. Drizzling and cloudy climate on Diwali day 19-10-2017

Ambient Air Quality and Noise Levels on Deepawali festival

Table-III Noise Level in Leq dB(A) at different locations on Pre- Deepawali Day 2014-2017 in West Bengal

S.No.	City	Locations	2014	2015	2016	2017
1.	Kalkatta	North Kolkatta, Salt Lake GB Block, NBSS Compound (R)	61	58	52	62↑
2.		South Kolkattal inside SSKM Hospital (S)	61	71	60	61↑

Table- IV Noise Level in Leq dB(A) at different locations on Deepawali Day 2014-2017 in West Bengal

S.No.	City	Locations	2014	2015	2016	2017
1.	Kolkatta	North Kolkatta, Salt Lake GB Block, NBSS Compound (R)	71	90	69	69 =
2.		South Kolkattal inside SSKM Hospital (S)	64	90	65	64↓

The Noise Pollution (Regulation and Control) Rules, 2000

SCHEDULE

(see rule 3(1) and 4(1))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

Note:

- (a) Day time shall mean from 6.00 a.m. to 10.00 p.m.
- (b) Night time shall mean from 10.00 p.m. to 6.00 a.m.
- (c) Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
- (d) Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- * dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period

CENTRAL POLLUTION CONTROL BOARD

NATIONAL AMBIENT AIR QUALITY STANDARDS

New Delhi the 18th November 2009

In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No. 14 of 1981), and in supersession of the notification No(s). S.O.384(E), dated 11th April 1994 and S.O.935(E), dated 14th October 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect.

Pollutant	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
		Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (Notified by Central Government)	
Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	- Improved West and Gaeke Method - Ultraviolet Fluorescence
Nitrogen dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40 80	30 80	- Jacob & Hochheiser modified (NaOH-NaAsO ₂) Method - Gas Phase Chemiluminescence
Particulate Matter (Size less than 10µm) or PM ₁₀ , µg/m ³	Annual * 24 Hours **	60 100	60 100	- Gravimetric - TEOM - Beta attenuation
Particulate Matter (Size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual * 24 Hours **	40 60	40 60	- Gravimetric - EOM - Beta attenuation
Ozone (O ₃), µg/m ³	8 Hours * 1 Hour **	100 180	100 180	- UV Photometric - Chemiluminescence - Chemical Method
Lead (Pb), µg/m ³	Annual * 24 Hours **	0.50 1.0	0.50 1.0	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter

Carbon Monoxide (CO), mg/m ³	8 Hours ** 1 Hour **	02 04	02 04	- Non dispersive Infrared (NDIR) Spectroscopy
Ammonia (NH ₃), µg/m ³	Annual * 24 Hours **	100 400	100 400	- Chemiluminescence - Indophenol blue method
Benzene (C ₆ H ₆), µg/m ³	Annual *	05	05	- Gas Chromatography (GC) based continuous analyzer - Adsorption and desorption followed by GC analysis
Benzo(a)Pyrene (BaP) Particulate phase only, ng/m ³	Annual *	01	01	- Solvent extraction followed by HPLC/GC analysis
Arsenic (As), ng/m ³	Annual *	06	06	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper
Nickel (Ni), ng/m ³	Annual *	20	20	- AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper

* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

NOTE

Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.

Protocol for Ambient Air Quality Monitoring

The ambient air quality monitoring is to be carried out for minimum 24 hours as the national standard prescribed is for 24 hours.

The sampling should be carried out for Particulate Matter (Size less than 10 μ m) or PM₁₀ as well as gaseous pollutants (SO₂ & NO₂) as per the NAMP format 06.00 Hours to 06.00 Hours

The sampling for gaseous should be done in four hourly duration and particulate matter in eight hourly duration.

Methods of measurement

Particulate Matter (Size less than 10 μ m) or PM₁₀ : Gravimetric method; Sampling using PM₁₀ High Volume Sampler and Glass microfibre filter

Sulphur dioxide (SO₂) : Improved West and Gaeke Method

Nitrogen dioxide(NO₂) : Modified Jacob & Hochheiser (NaOH-NaAsO₂) Method

The monitoring data sheets are attached as **Annexure – IV & V.**

AMBIENT AIR QUALITY MONITORING
DATA SHEET FOR PARTICULATE MATTER (Size less than 10 µm) or PM₁₀

Station:	Date:		
Shift			
Monitoring Duration			
Filter Paper No.			
Hourly Flow Rate (m ³ /minute)			
Average Flow Rate (m ³ /minute)			
Total Operation Time (Minutes)			
Initial Weight of Filter Paper (gms.)			
Final Weight of Filter Paper (gms.)			
Dust Contents (gms.)			
Total Volume of Air Sampled (m ³)			
Concentration (µg/m ³)			
24 Hourly Average PM ₁₀ (µg/m ³):			
Remarks:			
Name & Signature of Official on Duty:			
Analyzed by:			

DATA SHEET FOR GASEOUS POLLUTANTS (AMBIENT AIR QUALITY MONITORING)													
Station:						Date:				Graph Factor		SO ₂	
										Graph Factor		NO ₂	
Shift	Ist Shift				IInd Shift				IIIrd Shift				
Monitoring Period	06:00AM-10:00AM		10:00AM-02:00 PM		02:00PM-06:00PM		06:00PM-10:00PM		10:00PM-02:00AM		02:00AM-06:00AM		
Parameter	SO ₂	NO ₂	SO ₂	NO ₂	SO ₂	NO ₂	SO ₂	NO ₂	SO ₂	NO ₂	SO ₂	NO ₂	
Hourly Flow Rate (lpm)													
Average Flow Rate (lpm)													
Total Operation Time (Minutes)													
Initial Volume of Sample (ml)													
Final Volume of Sample (ml)													
Volume Taken For Analysis (ml)													
Total Volume of Air Sampled (lit.)													
Absorbance (Blank)													
Absorbance (Sample)													
Concentration (µg/m ³)													
24 Hourly Average SO ₂ (µg/m ³):					24 Hourly Average NO ₂ (µg/m ³):								
Remarks:													
Name & Signature of Official on duty													
Analyzed by:													

**Protocol for Ambient Noise Monitoring on
Deepawali Day**

1.0 Purpose of Monitoring

This protocol presents the method for Ambient Noise monitoring during Deepawali Festival. The objective is to see the impact of bursting crackers on Environment and whether ambient noise level is within prescribed noise level standard limit.

2.0 Monitoring Locations/Site Selection:

- Site in a city shall be selected such that each category (Residential, Commercial and Silence Zones) should be covered.
- Instrument should be placed considering following points :
 - Instrument must be away from fascades
 - Instrument must be away from obstacles
 - Microphone must be placed 1.2 -1.5 m above the ground level
 - In dry conditions with a wind speed of less than 5 m/s
 - Isolate the instrument from strong vibration and shock
- Close to any domestic premises, Hotel, Hostel, Hospital, Educational institution etc. do not keep the noise level meter and the measurement.

3.0 Monitoring Equipments

Noise measurements will be made with a Type 1 integrating sound level meter with free-field microphone which meets the Accuracy of noise measurement as per IEC 804 (BS 6698) Grade I or ANSI Type I or equivalent IEC 61672-1(2002-05) Class-I.

4.0 Monitoring frequency: Noise Monitoring on Deepawali Day is to be carried out from 18.00 Hrs to 24.00 Hrs continuously at each location.

5.0 Sampling Frequency/rate: Duration is of 6 hours from 18.00 Hrs to 24.00 Hrs with 1 sec sampling period.

6.0 Monitoring Parameters: Leq, L10, L90, L50, Lmax, Lmin, LAI (with 1sec sampling period at all locations).

7.0 Criteria for monitoring:

The following criteria will be observed when undertaking the noise monitoring:

- a) During Deepawali sound comes from more than one direction, it is important to choose a microphone and mounting which gives the best possible Omni directional characteristics;
- b) The noise measurement equipment will be supervised continuously during the monitoring period and notes will be made of the date, time and prevailing weather conditions;
- c) Immediately prior to and following each noise measurement session the accuracy of the noise level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Make sure that the instrument is properly calibrated. The sound level meter and calibrator will hold a current calibration certificate traceable to national standards;
- d) Noise measurements should not be made in fog and rain;
- e) A wind shield will be used at all times to prevent interference with sound levels;
- f) As far as is practicable, the pause facility on the noise measurement equipment will be used to exclude extraneous noise (e.g. low flying aircraft and road traffic passing in front of the microphone) so that the results recorded are representative of the site noise or if possible for road traffic/other source background noise can be eliminated from final reading by using the following formula:

$$L_{\text{pressure}} = 10.\log [10^{(L_p/10)} - 10^{(L_{p\text{Background}}/10)}]$$

8.0 The following details will be recorded:

- (i) The date, time, location and duration of the measurement;
- (ii) All predominant noise sources will be noted, which may include extraneous noise such as road traffic, aero-planes and other activity;
- (iii) Weather conditions will be recorded including wind speed and approximate direction, cloud cover, rain and ground frost;

9.0 Noise Monitoring Records

The particulars of the measurements recorded by the noise level meter shall be furnished in the monitoring data sheet, which is attached at **Annexure VII.**

Data sheet for Ambient Noise Monitoring on Deepawali Day

Location:		Date:	
Noise Level Meter			
Make	:		
Model	:		
Serial No.	:		
Calibration Result of Noise Level Meter			
Calibration	94 dB at 1000 Hz	114 dB at 1000 Hz	
Initial			
Final			
Sampling rate			
S. No.	Time duration	File No.	L equivalent dB(A)
	18:00 Hrs. to 19:00 Hrs		
	19:00 Hrs. to 20:00 Hrs		
	20:00 Hrs. to 21:00 Hrs		
	21:00 Hrs. to 22:00 Hrs		
	22:00 Hrs. to 23:00 Hrs		
	23:00 Hrs. to 24:00 Hrs		
Average L equivalent dB(A) Between (18:00 to 24:00 Hrs)			
Name & signature of Official on Duty			

L_{max} Between (18:00 to 24:00 Hrs) and L_{min} Between (18:00 to 24:00 Hrs).