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Press Release

Ambient Air and Noise Pollution Levels - Deepawali 2010

Executive Summary

Like previous years, the Central Pollution Control Board, Delhi has conducted an in-depth Ambient Air quality & Noise monitoring for the city of Delhi during celebration of Deepawali festival for the year 2010 (**November 05, 2010**) to see the overall impact of bursting crackers on Environment. Intensive ambient air monitoring was carried at selected seven locations, while ambient noise monitoring was undertaken at eight locations in the city. The **findings of the monitoring** are summarized below:

- **Noise level** during Deepawali, 2010 showed a slight increase at three locations, decreased at one and no significant change at remaining locations as compared to Deepawali 2009 (October 17). Increase in Noise Level at some locations could be attributed to bursting of noisy crackers. The maximum Noise Level was found to have increased to 85 dB(A) in 2010 from 82 dB(A) observed in 2009.

- **Air pollutant levels** during 2010 Deepawali Day (November 5) were found to be higher as compared to Deepawali, 2009 (October 17) **which can be attributed to meteorological conditions like**:

- Decrease in 24 hourly average temperature from 25.2°C on October 17, 2009 to 21.2°C on November 5, 2010.

- Decrease in night time mixing height from 185 metre on October 17, 2009 to 151 metre on November 5, 2010.

- Increase in the humidity profile upto 75.3% on Novemner 05, 2010 as compared 49.8% on October 17, 2009 was not favourable for dispersion of pollutants during night time.

Report

Ambient Air & Noise Pollution Levels - Deepawali 2010

The Central Pollution Control Board has conducted Ambient **Air quality & Noise** monitoring at various locations in Delhi on the occasion of Deepawali festival, 2010 to see the impact of bursting crackers on environment. The following investigations were conducted:

1. Round-the-clock Ambient Air quality monitoring was carried out on November 05, 2010 (Deepawali day) at seven monitoring stations of CPCB namely BSZ Marg (ITO), Pitampura, Siri Fort, Janakpuri, Nizamuddin, Shahzada Bagh and Shahdara. The air quality data is presented in **Table -1**.

2. The Ambient noise level monitoring was carried out at eight locations in Delhi namely Lajpat Nagar, Mayur Vihar (Phase – II), Pitam Pura, Kamla Nagar, Dilshad Garden, Ansari Nagar (AIIMS), Connaught Place and ITO between 18.00 hours & 24.00 hours (during Deepawali celebration hours) on November 05, 2010. Ambient Noise level monitoring data for Pre-Deepawali background monitoring was carried out at same locations & time on October 28, 2010. The noise level data is presented in **Table – 2**.

3. Meteorological profile (temperature, humidity, wind speed, wind direction and mixing height) was also monitored. Average temperature on Deepawali Day 2010 was 21.2^0C as compared to 25.2^0C in 2009; humidity was 75.5% in 2010 as compared to 49.8% in 2009. Mixing height during peak Deepawali hours (18 – 24 hours) reduced from 185 meters (2009) to 151 meters (2010).

Table 1 Ambient Air Quality at Various Locations during Deepawali 2009 & 2010

(All Values are in microgram per cubic metre)

Parameter→	**SO_2**		**NO_2**		**PM_{10}**	
Year→	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**
B.S.Z Marg (ITO)	17	18→	65	56↓	478	↑1303
Pitampura (R)	8	↑23	40	↑44	469	↑1350
Sirifort (R)	37	14↓	54	51↓	580	↑1012
Janakpuri (R)	42	↑51	32	↑43	466	↑1100
Nizamuddin (R)	19	8↓	55	54→	414	↑704
Shahazada Bagh (I)	27	28→	48	↑72	611	↑1116
Shahdara (I)	21	14↓	27	↑34	486	↑1317
Concentration Range for Delhi	***8 - 42***	***8 - 51***	***27 - 65***	***34 - 72***	***414 -611***	***704 - 1350***
National Ambient Air Quality Standards (Residential, Rural & Other Area)	***80***		***80***		***100***	

Deepawali Day 2009 – 17 October (Saturday)
Deepawali Day 2010 – 05 November (Friday)

Table- 2: Ambient Noise Level at different places in Delhi during Normal & Deepawali days in the year 2009-2010

S. No.	Location	Average Noise Level in dB (A) Leq.				
		Normal Day		Deepawali Day		Standard Limit
		2009	2010	2009	2010	
01.	Lajpat Nagar (R)	61	63	75	76	**55**
02.	East Arjun Nagar (R)	58	-	76	-	
03.	Mayur Vihar Phase – II (R)	66	63	82	85	
04.	Pitam Pura (R)	58	58	74	71	
05.	Kamla Nagar (R)	62	56	76	81	
06.	Dilshad Garden (R)	54	56	76	83	
07.	Ansari Nagar) (R)	57	58	81	81	
08.	Connaught Place (C)	62	62	71	71	**65**
09.	I.T.O (C)	70	65	71	71	

Monitoring time: **1800 hours to 2400 hours.**

Normal day: 28th October 2010.
R – Residential, C – Commercial
Deepawali Day 2009 – 17 October (Saturday)
Deepawali Day 2010 – 05 November (Friday)

At most of the monitoring locations, high noise levels were observed after 10.00 PM.

Findings of Ambient Air Quality Monitoring

Sulphur dioxide (SO_2):

A Sulphur dioxide concentration on Deepawali day 2010 increased at two locations, decreased at three locations and was almost same at two locations, as compared to Deepawali day 2009. During Deepawali day, 2010 SO_2 ranged between 8 and 51 $\mu g/m^3$ as compared to 8 and 42 $\mu g/m^3$ during Deepawali day in 2009. SO_2 levels have been found within the prescribed standard of 80 $\mu g/m^3$ at all the locations.

Nitrogen dioxide (NO_2):

Nitrogen dioxide concentration on Deepawali day in 2010 has increased at four locations, decreased at two locations and remained same at one location as compared to Deepawali day 2009. NO_2 values during Deepawali day ranged between 34 and 72 $\mu g/m^3$ as compared to 27 and 65 $\mu g/m^3$ in 2009. The NO_2 levels are within the prescribed standard of 80 $\mu g/m^3$ at all the locations.

Respirable Suspended Particulate Matter (RSPM):

RSPM levels have shown increasing trend at all the locations on Deepawali day, 2010 as compared to 2009. RSPM values during Deepawali day, 2010 ranged between 704 and 1350 $\mu g/m^3$ as compared to 414 and 611 $\mu g/m^3$ during Deepawali, 2009. The highest RSPM of 1350 $\mu g/m^3$ was reported at Pitampura.

Conclusion:

Increase in RSPM values in general may be attributed to adverse meteorological conditions, i.e. substantial decrease in temperature, mixing height and high humidity as compared to Deepawali, 2009 (October 17). Decrease in 24 hourly average temperature from 25.2°C on October 17, 2009 to 21.2°C on November 5, 2010. Decrease in night time mixing height from 185 metre on October 17, 2009 to 151 metre on November 5, 2010. Increase in the humidity profile up to 75.3% on November 05, 2010 as compared 49.8% on October 17, 2009 which were not favourable for dispersion of pollutants during night time. The other factor influencing the pollutant level can be the use of more light producing crackers which emit smoke.

Findings of Ambient Noise Level Monitoring – Deepawali, 2010

- The ambient noise level at all the locations on Deepawali day, 2010 has increased as compared to normal day (pre Deepawali – October 28, 2010).

- During Deepawali, 2010, out of eight locations monitored ambient noise level has increased at three locations, while decreased at one location and at remaining locations no significant change was observed as compared to Deepawali 2009.

- The average ambient noise levels in 2010 on normal day were ranging from 56 to 65 dB(A) Leq. and on Deepawali day 71 to 85 dB(A) Leq.

- The maximum Noise Level of 85 db(A) was observed in 2010.

Conclusion

Overall noise level during Deepawali 2010 remained to be same as compared to Deepawali 2009 .

Overall Conclusion of Deepawali monitoring 2010

Noise levels during Deepawali, 2010 (November 05) at some locations was higher than Deepawali, 2009 (October 17) because of bursting of noisy crackers.

Air pollution levels during 2010 (November 5) were found to be higher as compared to Deepawali, 2009 (October 17) mainly because of adverse meteorological conditions, substantial decrease in temperature, mixing height and high humidity.