

## AMBIENT AIR QUALITY AND NOISE LEVELS IN DELHI DURING DEEPAWALI, 2004

Central Pollution Control Board has conducted Air quality and Ambient Noise monitoring at various locations in Delhi on the occasion of Deepawali festival, 2004 to see the environmental impact of bursting crackers.

To see the impact of burning of crackers on Air quality, 24 Hourly Ambient Air quality monitoring was carried out at ITO, Patel Nagar and Ashok Vihar on Pre-Deepawali, Deepawali and Post-Deepawali days. Round-the-clock Air quality monitoring was also carried out on November 12, 2004 at the monitoring stations of CPCB in Siri Fort, Janakpuri, Nizamuddin, Shahzada Bagh and Shahdara for parameters Sulphur dioxide, Nitrogen dioxide, Suspended Particulate Matter, Respirable Suspended Particulate Matter. Carbon monoxide was monitored at ITO and Patel Nagar. The air quality data is presented in Table 1 and 2 and trend of air quality at ITO is shown in Fig. 1 and 2

The Ambient noise monitoring was carried out for short duration (half an hour average) at 10 locations in Delhi namely Connaught Place, India Gate, Raja Garden, Pitampura, Model Town, Mayur Vihar Phase – II, Lajpat Nagar, AllMS, New Friends Colony and East Arjun Nagar between 18.00 hours & 23.00 hours on November 12, 2004 during Deepawali celebration. Noise monitoring for long duration (six hour average) at Kamla Nagar, ITO, Patel Nagar and Dilshad Garden was also carried out during the same period. Pre-Deepawali background monitoring was carried out on November 5, 2004 during the same period for comparison. The noise level data is presented in Table 3 and trend is shown in Fig. 3.

### Findings of Ambient Air Quality Monitoring

Sulphur dioxide concentrations have increased at four locations and decreased at four locations during the year 2004 as compared to 2003. During Deepawali 2004 SO<sub>2</sub> ranged between 8 and 22 µg/m<sup>3</sup> as compared to 4 and 43 µg/m<sup>3</sup> during 2003.

#### Nitrogen dioxide

Increase in nitrogen dioxide levels observed at all the locations except Ashok Vihar, Janakpuri and Shahdara. NO<sub>2</sub> levels in 2004 were found to be between 42 and 124 µg/m<sup>3</sup> as compared to 40 and 115 µg/m<sup>3</sup> in 2003

#### Suspended

#### Particulate

#### Matter

SPM levels have shown substantial increase at all the locations as compared to 2003. SPM values during deepawali 2004 were ranging between 1107 to 2247 µg/m<sup>3</sup> as compared to 676 to 1516 µg/m<sup>3</sup> during Deepawali 2003. Increase may be attributed to bursting of more crackers and also unfavourable meteorological conditions (low temperature, calm conditions and low wind speed) in 2004 as compared to 2003.

#### Respirable Suspended Particulate Matter

RSPM levels have shown an increase at all the locations as compared to 2003. RSPM values were between 607 and 1797 µg/m<sup>3</sup> during Deepawali 2004 as compared to 468 and 920 µg/m<sup>3</sup> during Deepawali 2003. Increase may be attributed to bursting of more crackers and also unfavourable meteorological conditions (low temperature, calm conditions and low wind speed) in 2004 as compared to 2003.

#### Carbon

#### monoxide

The Carbon monoxide levels at BSZ Marg and Patel Nagar have shown major increase as compared to 2003. The eight hourly average values of carbon monoxide ranged between 4420 and 12500 µg/m<sup>3</sup> on Deepawali 2004 as compared to 2433 and 9121 µg/m<sup>3</sup> on Deepawali 2003. Major increase may be attributed due to unfavourable meteorological conditions (low temperature, calm conditions and low wind speed) in 2004 as compared to 2003.

### **Findings of Ambient Noise Monitoring**

- Noise level on Deepawali day, 2004 decreased at six locations whereas it slightly increased at four locations and remained same at one location as compared to the Deepawali day, 2003 (Three locations) being new could not be compared.
- The Ambient noise level has increased on Deepawali day as compared to the normal day, i.e. November 5, 2004 at all the locations.
- The average ambient noise levels on normal day were ranging from 52 to 78 Leq dB(A) and 64 to 87 Leq dB(A) on Deepawali day.
- Average noise values on Deepawali were ranging from 64 to 87 Leq dB(A) against last year's average values of 69 to 90 Leq dB(A).