

Report on Ambient Air Quality and Ambient Noise Monitoring during Diwali, 2023

To study the impact of the bursting of crackers and other related activities, the Himachal Pradesh State Pollution Control Board has conducted ambient air quality monitoring on the occasion of Diwali festival 2023 from 05.11.2023 to 11.11.2023 (Pre Diwali monitoring), on 12.11.2023 (Diwali Day monitoring) and 13.11.2023 to 19.11.2023 (Post Diwali monitoring). Ambient air quality monitoring at Shimla, Parwanoo, Dharamshala, Damtal (Jassur), Sunder Nagar, Paonta Sahib, Kala Amb, Una, and Manali was carried out for parameters i.e. Respirable Particulate Matter (PM₁₀), Respirable Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Ammonia (NH₃) for 24 hour a day. Ambient air quality monitoring at Parwanoo, Damtal, Paonta Sahib, Kala Amb, Una and Nalagarh was carried out for CO (Carbon Monoxide) and at Shimla, Parwanoo, Dharamshala, Damtal Sundernagar, Paonta Sahib, Kala Amb and Una was carried out for O₃ (Ozone) parameter. At Baddi Station Ambient Air Quality was carried out for Respirable Particulate Matter (PM₁₀), Respirable Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x). Further, the heavy metal monitoring and analysis was carried out at Shimla, Parwanoo, Paonta Sahib, Sundernagar, Una and Dharamshala for Lead, Nickel, Arsenic metals in PM₁₀, and Aluminium, Barium and Iron metals in PM_{2.5}. Ambient Noise monitoring was carried out at Shimla, Parwanoo, Paonta Sahib, Una, Dharamshala, Baddi, Kullu, Bilaspur, Kinnaur, Rampur and Chamba. The detail of ambient air & noise monitoring data is enclosed in Annexures- I-II & III.

Ambient Air Quality Monitoring report of Himachal Pradesh during the Diwali Festival, 2023 are as under:

SHIMLA

The ambient air quality monitoring at Shimla was carried out at one location i.e. Tekka Bench, Shimla. The 24-hour average value of RSPM (PM₁₀) at Tekka Bench was observed at 61.1µg/m³ which is below the standard prescribed limit of 100 µg/m³ on Diwali day. The concentration of RSPM (PM₁₀) observed at Shimla during Diwali, 2023 was above the concentration of RSPM (PM₁₀) observed during Diwali last year i.e. 31.0µg/m³. The maximum concentration of RSPM (PM₁₀) in the ambient air on Diwali day was observed as 138.0µg/m³ at Tekka Bench, Shimla from 2:00 PM-10:00 PM. Similarly, the 24-hour average value of RSPM (PM_{2.5}) at Tekka Bench, Shimla was observed at 47.1µg/m³ which is below than standard prescribed limit of 60µg/m³ on Diwali day. The concentration of RSPM (PM_{2.5}) observed at Shimla during Diwali, 2023 was comparatively above the concentration of RSPM (PM_{2.5}) observed during Diwali last year i.e. 16.0µg/m³. The concentration of SO₂ and NO_x was also observed well below the prescribed standards of 80µg/m³ for 24 hours. The average concentration of SO₂ and NO_x was observed as 4.6µg/m³ & and 11.6µg/m³ at Tekka Bench respectively on Diwali day which was well below the prescribed standard limit of 80µg/m³.

The 8-hour average O₃ concentration at Tekka Bench, Shimla was observed within the standard prescribed limit of 100µg/m³ on pre-Diwali, Diwali and post-Diwali

monitoring. The concentration of NH₃ at Tekka Bench was observed at 3.4µg/m³ during Diwali day which is below the standard prescribed limit of 400µg/m³.

The concentrations of Lead, Nickel and arsenic in PM₁₀ at Shimla town were found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ during Pre Diwali, Diwali & Post Diwali monitoring.

PARWANOO

The ambient air quality monitoring at Parwanoo was carried out at one location i.e. Sector-IV Parwanoo. The 24-hour average RSPM (PM₁₀) concentration at Sector-IV Parwanoo on Diwali day was observed at 87.0µg/m³ which is lower than the prescribed standard limit of 100µg/m³. The value of RSPM (PM₁₀) concentration observed on pre-Diwali and post-Diwali are within the prescribed limit. The maximum concentration of RSPM (PM₁₀) in the ambient air on Diwali was observed as 125.2µg/m³ from 10:00 PM-06:00 AM. The concentration of RSPM(PM₁₀) 87.0µg/m³ at Sector-IV, Parwanoo was observed higher than the concentration of RSPM(PM₁₀) observed during Diwali last year i.e. 82.9/m³. Similarly, the 24-hour average RSPM (PM_{2.5}) concentration in Parwanoo at Sector-IV was observed at 23.0µg/m³ which is within the standard prescribed limit of 60µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) 23.0µg/m³ at Sector-IV, Parwanoo was observed lower than the concentration of RSPM(PM_{2.5}) observed during Diwali last year i.e. 32.9µg/m³. The average concentration of SO₂ and NO_x at Sector-IV, Parwanoo was observed well below the prescribed standards of 80µg/m³ for 24 hours i.e. 1.9 & 8.48µg/m³ on Diwali day.

The 8-hour average concentration of O₃ and CO at Sector-IV, Parwanoo was observed within the standard prescribed limit of 100µg/m³ and 2.0mg/m³ on Pre Diwali, Diwali day & Post Diwali. The value of NH₃ concentration was observed at 0.29µg/m³ on Diwali day within the prescribed limit of 400µg/m³.

The concentrations of metals Lead, Nickel and arsenic in PM₁₀ at Parwanoo town were found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ on Pre Diwali, Diwali & Post Diwali monitoring.

DHARAMSHALA

The ambient air quality monitoring at Dharamshala was carried out at one location i.e. Dari, Dharamshala. The 24-hour average RSPM (PM₁₀) concentration at Dari, Dharamshala was observed above the prescribed standards of 100 µg/m³ i.e. 128.0µg/m³ during Diwali day. The maximum concentration of RSPM (PM₁₀) in the ambient air on Diwali, 2023 was observed as 294.0µg/m³ during 2:00 PM-10:00 PM. The concentration of RSPM (PM₁₀) at Dari, Dharamshala was observed comparatively higher than the concentration of RSPM (PM₁₀) observed during Diwali last year 108.0µg/m³. Similarly, the 24-hour average RSPM (PM_{2.5}) concentration was observed 72µg/m³ higher than the standard

prescribed limit of $60 \mu\text{g}/\text{m}^3$ on Diwali day. The concentration of RSPM ($\text{PM}_{2.5}$) at Dari, Dharamshala was observed comparatively higher than the concentration of RSPM ($\text{PM}_{2.5}$) observed during Diwali last year i.e. $68\mu\text{g}/\text{m}^3$. The average concentration on Diwali day of SO_2 and NO_x at Dari, Dharamshala was observed well below the prescribed standards of $80\mu\text{g}/\text{m}^3$ for 24 hours i.e. $2.0 \mu\text{g}/\text{m}^3$ (BDL) & $8.33\mu\text{g}/\text{m}^3$ (BDL) respectively.

The 8-hour average O_3 concentration at Dari, Dharamshala was observed within the standard prescribed limit of $100\mu\text{g}/\text{m}^3$ on Pre Diwali, Diwali day & Post Diwali. The value of NH_3 concentration was observed at $0.47\mu\text{g}/\text{m}^3$ on Diwali day is within the prescribed limit of $400\mu\text{g}/\text{m}^3$.

The concentrations of metals Lead, Nickel and arsenic in PM_{10} at Dharamshala town were also found within the standard prescribed limit of Lead $1.0\mu\text{g}/\text{m}^3$, Arsenic $6.0\text{ng}/\text{m}^3$ & Nickel $20.0\text{ng}/\text{m}^3$ on Pre Diwali, Diwali & Post Diwali monitoring.

DAMTAL (JASSUR)

The ambient air quality monitoring at Damtal was carried out at one location i.e. Ram Gopal Mandir, Damtal. The 24-hour average RSPM (PM_{10}) concentration at Damtal, Jassur was observed below the prescribed standards of $100 \mu\text{g}/\text{m}^3$ i.e. $60.0\mu\text{g}/\text{m}^3$ on Diwali day, 2023. The maximum concentration of RSPM (PM_{10}) in the ambient air was observed as $76.0\mu\text{g}/\text{m}^3$ on Diwali day from 10:00 PM-06:00 AM. The concentration of RSPM(PM_{10}) at $60.0\mu\text{g}/\text{m}^3$ was observed relatively lower than the concentration of RSPM(PM_{10}) observed during Diwali last year at $103.0\mu\text{g}/\text{m}^3$. Similarly, the 24-hour average RSPM ($\text{PM}_{2.5}$) concentration at Damtal, Jassur was observed $20\mu\text{g}/\text{m}^3$ lower than the standard prescribed limit of $60 \mu\text{g}/\text{m}^3$ on Diwali day. The concentration of RSPM($\text{PM}_{2.5}$) $20.0\mu\text{g}/\text{m}^3$ was observed relatively lower than the concentration of RSPM($\text{PM}_{2.5}$) observed during Diwali last year i.e. $66\mu\text{g}/\text{m}^3$. The average concentration of SO_2 and NO_x was observed as $2.0\mu\text{g}/\text{m}^3$ (BDL) and $7.5\mu\text{g}/\text{m}^3$ (BDL) respectively on Diwali day.

The 8-hour average O_3 and CO concentration at Damtal was observed within the standard prescribed limit of $100\mu\text{g}/\text{m}^3$ and $2\text{mg}/\text{m}^3$ on Pre Diwali, Diwali & Post Diwali monitoring. The value of NH_3 concentration was observed at $0.38\mu\text{g}/\text{m}^3$ on Diwali day is within the prescribed limit of $400\mu\text{g}/\text{m}^3$.

The concentrations of metals Lead, Nickel and arsenic in PM_{10} at Damtal town were also found within the standard prescribed limit of Lead $1.0\mu\text{g}/\text{m}^3$, Arsenic $6.0\text{ng}/\text{m}^3$ & Nickel $20.0\text{ng}/\text{m}^3$ on Pre Diwali, Diwali & Post Diwali monitoring.

SUNDER NAGAR

The ambient air quality monitoring at Sunder Nagar was carried out at one location i.e. Regional Office, Sunder Nagar. The 24-hour average RSPM(PM₁₀) concentration at Sunder Nagar was observed within the prescribed standards of 100 µg/m³ i.e. 63.8µg/m³ on Diwali day. The concentration of RSPM (PM₁₀) observed during Diwali, 2023 was comparatively higher than the concentration of RSPM (PM₁₀) observed during Diwali last year 57.0µg/m³. The maximum concentration of RSPM (PM₁₀) in the ambient air on Diwali was observed as 90.5µg/m³ during 02:00 PM-10:00 PM. Similarly, the 24-hour average RSPM (PM_{2.5}) concentration was also observed 35µg/m³ lower than the standard prescribed limit of 60µg/m³ on Diwali day. The concentration of RSPM (PM_{2.5}) 35µg/m³ was observed higher than the concentration of RSPM (PM_{2.5}) observed during Diwali last year i.e. 28µg/m³. The concentration of SO₂ and NO_x was observed well below the prescribed standards of 80µg/m³ for 24 hours. The average concentration of SO₂ and NO_x was observed as 2.0µg/m³ (BDL) and 8.14µg/m³ (BDL) which is below the prescribed standard of 80µg/m³ for 24 hours.

The 8-hour average O₃ concentration at Sunder Nagar was observed within the standard prescribed limit of 100µg/m³ on Pre Diwali, Diwali day & Post Diwali. The value of NH₃ concentration was observed at 5.51µg/m³ on Diwali day is within the prescribed limit of 400µg/m³.

The concentrations of metals Lead, Nickel and arsenic in PM₁₀ at Sundernagar town were found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ on Pre Diwali, Diwali & Post Diwali monitoring.

PAONTA SAHIB

The ambient air quality monitoring at Paonta Sahib was carried out at one location i.e. office building, Shubkhera, Paonta Sahib. The 24-hour average RSPM(PM₁₀) concentration at Paonta Sahib was observed higher than the prescribed standards of 100µg/m³ i.e. 115.9µg/m³ on Diwali day. The maximum concentration of RSPM(PM₁₀) in the ambient air was observed as 129.7µg/m³ on Diwali day, 2023 from 02:00 PM-10:00 PM indicating the impact of bursting of crackers on the ambient air quality. The concentration of RSPM(PM₁₀) at 115.9µg/m³ was observed relatively lower than the concentration of RSPM(PM₁₀) observed during Diwali last year at 119.6µg/m³. Similarly, the 24-hour average RSPM(PM_{2.5}) concentration was also observed 50.6µg/m³ lower than the standard prescribed limit of 60 µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) 50.6.0µg/m³ was observed relatively lower than the concentration of RSPM(PM_{2.5}) observed during Diwali last year i.e. 67.0µg/m³. The concentration of SO₂ and NO_x was observed well below the prescribed standards of 80µg/m³ for 24 hours. The average concentration of SO₂ and NO_x was observed as 9.6µg/m³ and 22.8µg/m³ respectively on Diwali day.

The 8-hour average O₃ concentration at Paonta Sahib was observed within the standard prescribed limit of 100µg/m³ on pre-Diwali, Diwali and post-Diwali monitoring. The value of NH₃ concentration was observed at 6.5µg/m³ on Diwali day is within the prescribed limit of 400µg/m³.

The concentrations of metals Lead, Nickel and arsenic in PM₁₀ at Paonta Sahib town were also found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ on Pre Diwali, Diwali & Post Diwali monitoring.

KALA AMB

The ambient air quality monitoring at Kala Amb was carried out at one location i.e. Trilokpur. The 24-hour average RSPM(PM₁₀) concentration at Trilokpur was observed lower than the prescribed standards of 100 µg/m³ i.e. 82.6µg/m³ on Diwali day. The maximum concentration of RSPM(PM₁₀) was observed as 110.9µg/m³ on Diwali, 2023 from 10:00 PM-06:00 AM. The concentration of RSPM(PM₁₀) at 82.6µg/m³ was observed comparatively lower than the concentration of RSPM(PM₁₀) observed during Diwali last year 88.0µg/m³. Similarly, the 24-hour average RSPM(PM_{2.5}) concentration was observed 44.0µg/m³ lower than the standard prescribed limit of 60 µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) 44.0µg/m³ was observed relatively lower than the concentration of RSPM(PM_{2.5}) observed during Diwali last year i.e. 47.3µg/m³. The concentration of SO₂ and NO_x was observed well below the prescribed standards of 80µg/m³ for 24 hours. The average concentration of SO₂ and NO_x was observed as 8.2µg/m³ and 19.5µg/m³ which is below the prescribed standard of 80µg/m³ for 24 hours.

The 8-hour average O₃ and CO concentration at Trilokpur, Kala Amb was observed within the standard prescribed limit of 100µg/m³ and 2.0mg/m³ on Pre Diwali, Diwali day & Post Diwali. The value of NH₃ concentration was observed at 4.6µg/m³ on Diwali day is within the prescribed limit of 400µg/m³.

The concentrations of metals Lead, Nickel and arsenic in PM₁₀ at Kala Amb town were found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ on Pre Diwali, Diwali & Post Diwali monitoring.

UNA

The ambient air quality monitoring at Una was carried out at one location i.e. Regional Office, Una. The 24-hour average RSPM(PM₁₀) concentration at Una was also observed higher than the prescribed standards of 100µg/m³ i.e. 180.06µg/m³ on Diwali day. The maximum concentration of RSPM(PM₁₀) in the ambient air was observed as 326.8µg/m³ on Diwali day, 2023 from 02:00 PM-10:00 PM indicating the impact of bursting of crackers on the ambient air quality. The concentration of RSPM(PM₁₀) 180.06µg/m³ was observed comparatively higher than the concentration of RSPM(PM₁₀) observed during Diwali last year i.e. 92.9µg/m³. The concentration of RSPM(PM_{2.5}) 62.5µg/m³ was observed on Diwali day and is above the standard prescribed limit of 60µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) 62.5µg/m³ was observed comparatively much higher than the concentration

of RSPM(PM_{2.5}) observed during Diwali last year i.e. 44.0µg/m³. The average concentration of SO₂ and NO_x was observed as 4.0µg/m³ and 18.9µg/m³ which is below the prescribed standard of 80µg/m³ for 24 hours. The value of NH₃ concentration was observed at 4.8µg/m³ on Diwali day is within the prescribed limit of 400µg/m³

The concentrations of metals Lead, Nickel and arsenic in PM₁₀ at Una town were found within the standard prescribed limit of Lead 1.0µg/m³, Arsenic 6.0ng/m³ & Nickel 20.0ng/m³ on Pre Diwali, Diwali & Post Diwali monitoring.

BADDI

The ambient air quality monitoring at Baddi was carried out at one location i.e. Secure Meter, Barotiwala. The 24-hour average RSPM(PM₁₀) concentration at Baddi was observed lower than the prescribed standards of 100 µg/m³ i.e. 96.0µg/m³ on Diwali day. The concentration of RSPM(PM₁₀) observed during Diwali, 2023 was comparatively much lower than the concentration of RSPM(PM₁₀) observed during Diwali last year i.e. 125.3µg/m³. The maximum concentration of RSPM(PM₁₀) in the ambient air on Diwali was observed as 110.0µg/m³ from 10:00 PM-06:00 AM. Similarly, the 24-hour average RSPM(PM_{2.5}) concentration was also observed 33.3µg/m³ lower than the standard prescribed limit of 60µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) at 33.3µg/m³ was observed relatively lower than the concentration of RSPM(PM_{2.5}) observed during Diwali last year 77.3µg/m³. The average concentration of SO₂ and NO_x was observed as 2.4 µg/m³ and 15.1µg/m³ on Diwali which is below the prescribed standard of 80µg/m³ for 24 hours.

NALAGARH

The ambient air quality monitoring at Nalagarh was carried out at one location i.e. Durga Devi Temple, Nalagarh. The 24-hour average RSPM(PM₁₀) concentration at Nalagarh was also observed lower than the prescribed standards of 100 µg/m³ i.e. 85.0µg/m³ on Diwali day. The concentration of RSPM(PM₁₀) observed during Diwali, 2023 was lower than the concentration of RSPM(PM₁₀) observed during Diwali last year 116.6µg/m³. The maximum concentration of RSPM(PM₁₀) in the ambient air on Diwali was observed as 106.0µg/m³ from 10:00 PM-06:00 AM. Further; 24-hour average RSPM(PM_{2.5}) concentration was observed at 25.0µg/m³ within the standard prescribed limit of 60 µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) observed during Diwali, 2023 was comparatively lower than the concentration of RSPM (PM_{2.5}) observed last year i.e. 41.6µg/m³. The average concentration of SO₂ and NO_x was observed as 2.0µg/m³ (BDL) and 11.3µg/m³ on Diwali day. The value of NH₃ concentration was observed at 6.97µg/m³ on Diwali day is within the prescribed limit of 400µg/m³.

The 8-hour average CO concentration at Nalagarh was observed within the standard prescribed limit of 2.0mg/m³ on Pre Diwali, Diwali day & Post Diwali.

MANALI

The ambient air quality monitoring at Manali was carried out at one location i.e. Hadimba Matta Road, Manali. The 24-hour average RSPM(PM₁₀) concentration at Hadimba Matta Road, Manali was observed lower than the prescribed standards of 100µg/m³ i.e. 54.5µg/m³ on Diwali day. The concentration of RSPM(PM₁₀) observed during Diwali, 2023 was comparatively much lower than the concentration of RSPM(PM₁₀) observed during Diwali last year 62.8µg/m³. The maximum concentration of RSPM(PM₁₀) observed was 88.07µg/m³ from 2:00 PM-10:00 PM on Diwali day indicating the impact of bursting of crackers on the ambient air quality. Similarly, the 24-hour average RSPM(PM_{2.5}) concentration was observed at 16.6µg/m³ within the standard prescribed limit of 60 µg/m³ on Diwali day. The concentration of RSPM(PM_{2.5}) 16.6µg/m³ was observed relatively lower than the concentration of RSPM(PM_{2.5}) observed during Diwali last year i.e. 25.5µg/m³. The concentration of SO₂ and NO_x was observed well below the prescribed standards of 80µg/m³ for 24 hours. The average concentration of SO₂ and NO_x was observed as 2.0µg/m³ (BDL) and 9.9µg/m³ which is below the prescribed standard of 80µg/m³ for 24 hours.

The 24-hour average NH₃ concentration at Hadimba Matta Road, Manali was observed at 2.78µg/m³ which is within the prescribed standard limit of 400µg/m³ on Diwali day.

Ambient Noise monitoring reports of Himachal Pradesh during the Diwali Festival, 2023 are as under:

Himachal Pradesh State Pollution Control Board has also conducted ambient noise monitoring on the occasion of the Diwali festival, 2023, to study the impact of the bursting of crackers and other related activities on 06.11.2023 (Normal day monitoring) and 12.11.2023 (Diwali day monitoring). The data of the ambient noise monitoring observed are summarized in Annexure-I.

SHIMLA

The ambient noise level monitoring was conducted at Shimla (BCS Area) during the Diwali festival on 06.11.2023 and 12.11.2023. The average ambient noise level (Leq.) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 52.3 dB(A) and 72.6 dB(A) respectively. The maximum impact of bursting of crackers on the ambient noise level on Diwali day was observed at 103.5dB (A) between 09.00 PM to 10.00 PM.

The ambient noise level of 72.6 dB(A) at Shimla was observed higher than the noise level of 69.8 dB(A) observed during Diwali last year.

PARWANOO

The ambient noise level was monitored at Sector IV, Parwanoo during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq.) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 50.3 dB(A) and 66.3 dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 10:00 PM to 11:00 PM, where a noise level (Leq) of 105.6 dB(A) was observed.

The ambient noise level of 66.3 dB (A) at Parwanoo was observed higher than the noise level of 65.4dB (A) observed during Diwali last year.

BILASPUR

The ambient noise level was monitored at Bilaspur town during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 47.8 dB(A) and 55.9 dB(A) respectively. The maximum impact of bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 09:00 PM and an ambient noise level of 88.9 dB (A) was observed.

The ambient noise level of 55.9 dB(A) at Bilaspur was observed lower than the noise level of 58.8 dB(A) observed during Diwali last year.

CHAMBA

The ambient noise level was monitored at Regional Office Chamba (Residential zone) during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored at the Regional Office, Chamba (Residential zone), from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 45.6 dB(A) and 72.1 dB(A) respectively in residential zone. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 09:00 PM where a noise level (Leq) of 92.6 dB(A) was observed.

The ambient noise level of 72.1 dB(A) at Chamba was observed higher than the noise level of 68.4 dB(A) observed during Diwali last year.

PAONTA SAHIB

The ambient noise level was monitored at HIMUDA Colony, Shubkhera, and Paonta Sahib during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 51.9 dB(A) and 57.7 dB(A) respectively. The maximum impact of the bursting of

crackers on the ambient noise level on Diwali day was observed between 09:00 PM-10:00 PM where a noise level (Leq) of 76.9 dB(A) was observed.

The ambient noise level of 57.7 dB(A) at Paonta Sahib was observed slightly lower than the noise level of 57.9 dB(A) observed during Diwali last year.

UNA

The ambient noise level was monitored at Regional Office Una (Residential zone) on 06.11.2023 and 12.11.2023 (Pre Diwali and Diwali day). The ambient noise level (Leq) at Rakkar Colony, Una (Residential zone) was monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 and the values were observed as 47.9 dB(A) and 62.1 dB(A) respectively in Residential zone. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 10:00 PM where a noise level (Leq) of 83.4 dB(A) was observed.

The Ambient noise level of 62.1 dB(A) at Una was observed higher than the level of 58.9 dB(A) observed during Diwali last year.

BADDI

The ambient noise level was monitored at Phase-I, Baddi during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq.) monitored from 18:00hrs-24:00hrs on 06.11.2023, and 12.11.2023 was observed as 60.3 dB(A) and 66.6 dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 09:00 PM-10:00 PM where a noise level (Leq.) of 90.3 dB(A) was observed.

The ambient noise level of 66.6 dB(A) at Phase-I, Baddi for the residential zone was observed slightly higher than the noise level of 68.8 dB(A) observed during Diwali last year.

RECONG PEO

The ambient noise level was monitored at Recong Peo, District Kinnaur during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 52.2 dB(A), and 62.5dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 09:00 PM where a noise level (Leq) of 95.5 dB(A) was observed.

The ambient noise level of 62.5 dB(A) at Recong Peo was observed lower than the noise level of 65.8 dB(A) observed during Diwali last year.

RAMPUR BUSHAR

The ambient noise level was monitored at Rampur, Distt. Shimla during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 54.7 dB(A) and 64.6 dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 09:00 PM where a noise level (Leq) of 98.0 dB (A) was observed.

The ambient noise level of 64.6 dB (A) at Rampur Bushar was also observed lower than the noise level 66.3 dB (A) observed during Diwali last year.

DHARAMSHALA

The ambient noise level was monitored at the Regional office of Dharamshala during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 47.9 dB(A) and 59.9 dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 07:00 PM to 08:00 PM where a noise level (Leq) of 83.4 dB(A) was observed.

The ambient noise level of 59.9 dB(A) at Dharamshala was observed lower than the noise level of 69.7 dB(A) observed during Diwali last year.

KULLU

The ambient noise level was monitored near Dhalpur Ground, Kullu during the Diwali festival on 06.11.2023 and 12.11.2023. The ambient noise level (Leq) monitored from 18:00hrs-24:00hrs on 06.11.2023 and 12.11.2023 was observed as 59.3 dB(A) and 61.8 dB(A) respectively. The maximum impact of the bursting of crackers on the ambient noise level on Diwali day was observed between 08:00 PM to 09:00 PM where a noise level (Leq) of 92.3 dB (A) was observed.

The ambient noise level of 61.8 dB(A) near Dhalpur Ground, Kullu was observed lower than the noise level of 65.8 dB(A) observed during Diwali last year.

CONCLUSION

The concentration of RSPM (PM₁₀ and PM_{2.5}), NO_x, SO₂, NH₃, O₃ & CO levels in the ambient air observed on Diwali, 2023 was comparatively more than the values observed on the normal days which indicates the impact of the bursting of firecrackers and other activities on the ambient air quality. During Diwali, 2023 the concentration of SO₂, NO_x, NH₃, O₃ & CO were observed within the standard limit in all the monitoring stations whereas, the concentration of **RSPM(PM₁₀) exceeded** the prescribed standard limit of

100 $\mu\text{g}/\text{m}^3$ for 24 hours at **Dharamshala, Paonta Sahib and Una** however, the RSPM(PM_{10}) concentration was observed within the **prescribed standard at Shimla, Parwanoo, Damtal, Sundernagar, Kala Amb, Baddi, Nalagarh & Manali on Diwali day**. Further, the concentration of RSPM(PM_{10}) at **Shimla, Parwanoo, Dharamshala and Una** was observed **more** than the concentration observed during **Diwali, 2022**, whereas, the concentration of RSPM(PM_{10}) at **Damtal, Paonta Sahib, Kala Amb, Baddi, Nalagarh and Manali** stations were observed comparatively **lower** than the concentration of RSPM observed during Diwali, 2022.

Similarly, the Concentration of RSPM($\text{PM}_{2.5}$) has **exceeded** the prescribed standard limit of 60 $\mu\text{g}/\text{m}^3$ for 24 hours at **Dharamshala and Una** however, the RSPM($\text{PM}_{2.5}$) concentration was observed within the **prescribed standard at Shimla, Parwanoo, Damtal, Sundernagar, Paonta Sahib, Kala Amb, Baddi, Nalagarh & Manali on Diwali day**. Further, the concentration of RSPM($\text{PM}_{2.5}$) at **Shimla, Dharamshala, Sundernagar and Una** was observed **more** than the concentration observed during **Diwali, 2022**, whereas, the concentration of RSPM($\text{PM}_{2.5}$) at **Parwanoo, Damtal, Paonta Sahib, Kala Amb, Baddi, Nalagarh and Manali** stations were observed comparatively **lower** than the concentration of $\text{PM}_{2.5}$ observed during Diwali, 2022.

There was a gradual decrease in the concentration of **RSPM (PM_{10} & $\text{PM}_{2.5}$), SO_2 , NO_x , NH_3 , O_3 & CO** after the Diwali festival at all the monitoring stations.

Further, the **heavy metal analysis** was also carried out in all Laboratories i.e. **Shimla, Parwanoo, Paonta Sahib, Sunder Nagar, Una & Dharamshala**. The concentrations of Lead, Nickel and arsenic in PM_{10} and Aluminium, Barium and Iron in $\text{PM}_{2.5}$ were monitored for consecutive 15 days and the Lead, Nickel and Arsenic parameters were found within the prescribed limit as per NAAQMS, 2009 on Pre Diwali, Diwali & Post Diwali period.

It can be concluded from the ambient air quality monitoring carried out by the State Board that w.r.t. PM_{10} concentration on Diwali day, **Una, Dharamshala and Paonta Sahib towns were highest polluted and Manali was the cleanest town** in the State and with respect to RSPM($\text{PM}_{2.5}$) concentration **Dharamshala and Una was highest polluted and Manali was the cleanest towns**. With respect to SO_2 & NO_x concentrations, all values are within the standard prescribed limit. The SO_2 concentration was observed highest at **Paonta Sahib 9.6 $\mu\text{g}/\text{m}^3$** and the concentration of NO_x was observed highest at **Paonta Sahib 22.8 $\mu\text{g}/\text{m}^3$** . The concentrations of NH_3 and O_3 at all locations were observed within the standard prescribed limit on Pre Diwali, Diwali and Post Diwali monitoring. The Concentration of metals (Lead, Nickel & Arsenic) in **Shimla, Parwanoo, Paonta Sahib, Dharamshala, Una and Sunder Nagar** was observed within the standard prescribed limit on Pre Diwali, Diwali and Post Diwali monitoring.

Annexure-I														
Area	Zone	Location	Annexure-I-Data of Noise Level											
			Date						Date					
			06.11.2023						12.11.2023					
			18:00Hrs-24:00Hrs						18:00Hrs-24:00Hrs					
			dB (A) Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀	dB (A) Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
Shimla	C	Shimla (BCS Area)	52.3	73.9	54.1	63.7	52.5	47.3	72.6	103.5	49.0	87.9	70.0	59.6
Parwanoo	C/R	Sector-4, Parwanoo	50.3	80.3	36.9	53.3	48.2	44.6	66.3	105.6	36.4	66.7	60.4	52.0
Poanta Sahib	R	Regional Office Himuda Colony, Shubkhera, Poanta Sahib	51.9	65.7	31.1	52.3	47.2	44.1	57.7	76.9	46.6	57.8	52.5	55.0
Una	R	Regional Office, Una	47.9	66.3	31.5	49.2	44.9	41.5	62.1	83.4	37.5	64.2	54.0	49.8
Dharamshala	R	Regional Office Dharamshala	47.9	63.2	32.9	-	-	-	59.9	83.4	30.5	-	-	-
Baddi	C/R	Baddi Phase-I	60.3	95.6	50.1	-	-	-	66.6	90.3	37.7	-	-	-
Kullu	C	Near Dhalpur Ground, Kullu	59.3	86.8	40.4	61.9	50.4	43.7	61.8	92.3	40.1	63.8	56	49.9
Bilaspur	C/R	Housing Board Colony Bilaspur	47.8	77.8	38.0	56.0	45.4	40.9	55.9	88.9	37.0	70.4	53.6	44.7
Kinnaur	C	Recongpeo (Distt.Kinnaur)	52.2	75.6	27.1	-	-	-	62.5	95.5	27.5	-	-	-
Rampur	C	Rampur Bushar (Distt. Shimla)	54.7	77.2	27.0	-	-	-	64.6	98.0	29.2	-	-	-
Chamba	R	Regional Office Chamba	45.6	48.7	43.5	-	-	-	72.1	92.6	48.7	-	-	-

* S = Silence, C = Commercial, I = Industrial, R=Residential,

ANNEXURE-II (a)

RSPM(PM10) in ug/m³24 Hour Standard for Industrial, Residential & Others=100 ug/m³

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023		11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023
Tekka Bench, The Mall, Shimla	6AM-2PM	32.5	23.9	25.3	53.1	71.4	58.0	16.2	21.3	27.3	17.5	13.0	16.9	17.5	17.9	18.6
	2PM-10PM	32.0	22.9	39.1	72.2	63.9	45.3	37.8	138.0	49.5	42.3	24.3	31.8	34.4	46.3	45.6
	10PM-6AM	7.1	13.3	19.7	34.5	43.6	36.9	21.0	24.0	19.8	8.5	16.1	11.2	16.9	21.4	15.8
	24 hour Avg.	23.9	20.0	28.0	53.3	59.6	46.8	25.0	61.1	32.1	22.8	17.8	20.0	22.9	28.5	26.7
Parwanoo, Sector-IV	6AM-2PM	23.8	34.6	50.8	34.3	30.1	55.8	26.3	30.8	22.4	50.8	45.4	36.3	35.3	22.4	41.0
	2PM-10PM	33.3	31.7	45.6	38.3	30.6	30.0	21.7	105.5	43.1	43.6	36.4	41.7	31.2	29.0	36.1
	10PM-6AM	32.9	25.5	50.5	30.7	40.6	38.6	21.0	125.2	26.8	30.1	29.4	28.5	41.1	32.8	38.2
	24 hour Avg.	30.0	30.6	49.0	34.4	33.8	41.0	23.0	87.0	31.0	41.0	37.0	35.0	36.0	28.0	38.0
Residential Buildin Dari Dharamshala	6AM-2PM	62.0	33.0	39.0	36.0	48.0	73.0	38.0	38.0	43.0	48.0	46.0	53.0	39.0	41.0	43.0
	2PM-10PM	67.0	75.0	62.0	48.0	70.0	Rain	78.0	294.0	102.0	79.0	87.0	85.0	53.0	76.0	96.0
	10PM-6AM	33.0	37.0	21.0	36.0	29.0	20.0	22.0	53.0	21.0	40.0	51.0	49.0	26.0	28.0	39.0
	24 hour Avg.	54.0	48.0	41.0	40.0	49.0	31.0	46.0	128.0	55.0	56.0	61.0	62.0	39.0	48.0	59.0
Ram Gopal Mandir, Damtal	6AM-2PM	50.0	48.0	43.0	39.0	50.0	Rain	37.0	43.0	30.0	28.0	26.0	42.0	-	-	-
	2PM-10PM	70.0	72.0	74.0	67.0	77.0	60.0	43.0	62.0	46.0	66.0	56.0	62.0	65.0	63.0	48.0
	10PM-6AM	35.0	38.0	39.0	38.0	58.0	24.0	35.0	76.0	78.0	42.0	36.0	40.0	41.0	35.0	33.0
	24 hour Avg.	52.0	53.0	52.0	48.0	62.0	42.0	38.0	60.0	51.0	45.0	39.0	48.0	53.0	49.0	41.0

ANNEXURE-II (a) (RSPM)

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Regional Laboratory, SunderNagar	6AM-2PM	59.8	67.4	59.7	65.5	68.2	60.2	46.2	46.4	58.1	38.3	52.1	50.7	47.5	51.0	56.0
	2PM-10PM	32.8	59.5	51.5	63.1	54.9	-	62.7	90.5	50.6	61.2	40.2	44.6	47.1	41.2	52.7
	10PM-6AM	42.2	46.8	49.2	60.6	62.7	42.2	43.2	54.4	47.5	47.7	35.0	39.0	48.5	33.8	49.6
	24 hour Avg.	45.0	57.9	53.5	63.1	61.9	51.2	50.7	63.8	52.0	49.1	42.4	44.8	47.7	42.0	52.8
Office Building, Shubkhera, Poanta Sahib	6AM-2PM	72.9	64.3	79.5	65.3	106.3	117.3	97.9	114.8	130.8	60.2	69.4	75.8	80.8	71.7	107.3
	2PM-10PM	174.1	125.3	86.6	90.0	139.5	108.7	181.9	129.7	101.0	73.7	104.4	67.7	130.3	86.2	98.3
	10PM-6AM	113.3	68.6	107.5	76.4	101.5	161.2	100.0	103.1	94.9	54.7	110.7	59.8	95.3	63.7	89.5
	24 hour Avg.	120.1	86.0	91.2	77.2	115.8	129.0	126.6	115.9	108.9	62.9	94.8	67.8	102.1	73.9	98.4
Trilokpur, Kala Amb	6AM-2PM	74.4	66.2	73.1	54.4	76.8	105.5	58.6	48.7	73.5	60.5	73.9	96.2	48.9	32.9	64.7
	2PM-10PM	63.7	49.8	66.6	76.0	92.4	88.9	89.0	88.3	83.0	41.7	69.5	44.6	62.7	54.5	63.0
	10PM-6AM	53.0	37.5	37.3	47.5	56.2	81.9	44.2	110.9	62.7	23.3	39.6	18.2	30.5	26.7	41.7
	24 hour Avg.	63.7	51.2	59.0	59.3	75.1	92.1	64.0	82.6	73.1	41.8	61.0	53.0	47.4	38.0	56.5
Regional Office, Una	6AM-2PM	63.95	68.75	69.58	73.95	69.58	20.83	45.62	44.37	78.54	76.45	51.04	54.79	80.20	74.16	71.66
	2PM-10PM	51.45	63.54	71.87	58.33	72.70	Rainfall	54.16	326.87	72.70	78.54	89.79	68.12	97.91	83.12	85.83
	10PM-6AM	-	70.20	61.45	88.33	71.25		106.66	168.95	74.16	80.20	55.41	60.41	96.87	67.70	88.54
	24 hour Avg.	57.70	67.50	67.63	73.54	71.18	20.83	68.81	180.06	75.13	78.40	65.41	61.11	91.66	74.99	82.01
Secure Meter, Baddi	6AM-2PM	89.0	85.0	84.0	99.0	105.0	Rainfall	80.0	78.0	88.0	88.0	90.0	79.0	77.0	73.0	71.0
	2PM-10PM	98.0	80.0	98.0	95.0	110.0		77.0	100.0	97.0	95.0	104.0	91.0	84.0	86.0	78.0
	10PM-6AM	77.0	75.0	73.0	86.0	78.0		71.0	110.0	96.0	83.0	78.0	76.0	65.0	73.0	67.0
	24 hour Avg.	88.0	80.0	85.0	93.0	97.0		76.0	96.0	93.0	88.6	90.0	82.0	75.0	77.0	72.0
ANNEXURE-II (a) (RSPM)																
		Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						

Area and Location	Time of sampling	11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
		Duega Devi Temple, Nalagarh	6AM-2PM	67.0	68.0	63.0	82.0	77.0	Rain	70.0	65.0	103.0	68.0	85.0	77.0	67.0
2PM-10PM	75.0		66.0	76.0	71.0	87.0	Rain	66.0	85.0	75.0	87.0	93.0	81.0	74.0	61.0	72.0
10PM-6AM	52.0		55.0	61.0	82.0	84.0	Rain	57.0	106.0	69.0	81.0	63.0	62.0	59.0	63.0	47.0
24 hour Avg.	64.0		63.0	66.0	78.0	82.0	Rain	64.0	85.0	82.3	78.0	80.0	73.0	66.0	65.0	60.0
Hadimba Matta Road, Manali	6AM-2PM	37.12	19.32	20.27	24.24	30.30	Rainfall	39.77	19.70	20.45	17.61	11.30	15.34	29.36	21.59	49.62
	2PM-10PM	39.20	50.57	53.03	39.77	39.58		41.29	88.07	43.56	40.53	47.54	42.80	38.83	41.48	41.67
	10PM-6AM	15.34	7.77	9.28	11.36	-		17.17	55.87	26.52	12.31	22.47	20.27	13.26	22.35	22.73
	24 hour Avg.	30.55	25.89	27.53	25.12	34.94		32.74	54.55	30.18	23.48	27.10	26.14	27.15	28.47	38.01
Note: = - Monitoring not conducted.																

ANNEXURE-II (b)																
NO _x in ug/m ³																
24 Hour Standard for Industrial, Residential & Others=80 ug/m3																
Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Tekka Bench, The Mall, Shimla	6AM-2PM	9.60	3.70	5.50	5.90	6.40	6.90	7.80	5.50	6.40	5.00	7.30	6.40	6.90	6.40	7.30
		12.30	5.50	9.60	9.10	10.50	6.80	10.50	11.40	10.50	11.90	11.00	11.10	11.00	9.10	9.60
	2PM-10PM	14.20	9.10	10.50	11.40	12.30	-	11.00	17.40	13.30	12.30	11.40	12.80	14.20	12.80	15.50
		10.50	7.80	8.70	8.20	8.20	9.60	9.60	19.20	14.60	9.60	8.70	7.80	8.70	11.00	9.60
	10PM-6AM	8.20	3.70	4.60	5.00	7.30	9.10	10.50	9.60	8.20	7.30	7.80	6.90	8.20	7.30	7.80
		7.30	2.70	3.70	4.10	5.00	5.50	8.20	6.40	5.00	5.90	5.00	4.10	5.00	4.10	4.10
	24 hour Avg.	10.4	BDL	BDL	BDL	BDL	BDL	BDL	9.6	11.6	9.7	BDL	BDL	BDL	9.0	BDL
Parwanoo, Sec-IV	6AM-2PM	6.9	6.0	17.6	8.3	6.9	6.9	7.4	7.4	8.3	3.2	4.2	8.8	11.6	6.0	4.6
		6.0	15.7	8.8	6.9	9.3	5.2	5.6	6.9	8.8	-	3.7	5.6	8.3	5.0	5.1
	2PM-10PM	5.6	8.8	9.3	12.5	6.0	-	6.0	7.9	7.4	3.7	3.7	4.2	7.4	6.9	4.5
		7.4	22.2	11.6	6.5	5.1	5.6	4.2	9.7	7.9	4.6	4.6	4.6	5.1	7.4	6.9
	10PM-6AM	5.1	9.7	4.2	8.8	6.5	5.1	6.5	10.2	7.4	4.2	5.1	3.7	7.4	7.9	7.4
		6.5	8.3	8.8	7.4	5.6	6.0	4.9	8.8	6.9	2.8	5.6	4.2	7.9	8.3	8.3
	24 hour Avg.	BDL	11.8	10.1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Residential Building Dari Dharamshala (795)	6AM-2PM	5.69	6.36	6.10	5.28	5.69	6.10	8.13	6.50	6.10	5.69	6.10	6.10	6.10	5.28	4.06
		6.50	7.32	7.32	8.13	8.13	7.72	8.00	7.72	5.71	7.32	7.72	7.32	6.50	6.91	5.28
	2PM-10PM	8.13	8.13	8.54	8.54	7.32	Rainfall	9.35	9.35	7.72	8.13	9.75	7.72	7.32	8.54	8.13
		9.76	8.94	8.94	9.76	8.94		8.54	10.57	9.75	8.94	8.54	9.75	8.54	7.72	9.75
	10PM-6AM	7.32	6.91	6.50	6.10	6.10	6.91	7.72	8.54	8.13	6.91	6.91	6.91	6.91	6.10	6.91
		4.47	5.69	5.69	4.47	7.72	5.28	6.91	7.32	6.91	5.28	7.72	7.72	5.69	4.88	4.88
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Ram Gopal Mandir Damtal	6AM-2PM	5.28	4.47	5.28	5.28	5.69	Rainfall	4.88	4.88	4.06	4.47	3.59	4.34	-	-	-
		8.54	7.90	7.31	8.13	8.94		4.54	6.91	6.09	6.50	5.69	4.88	-	-	-
		9.35	8.54	8.13	9.35	9.76		5.69	6.91	7.72	8.13	7.72	6.91	7.31	8.13	8.54
	2PM-10PM	9.35	7.72	8.13	10.16	9.76	2.44	4.88	10.16	9.35	8.94	8.13	8.54	8.13	8.54	8.54
		4.06	5.28	4.47	5.69	4.47	3.59	4.06	9.35	5.69	6.09	4.47	4.88	5.69	4.88	5.28
	10PM-6AM	3.59	4.06	4.47	4.88	3.25	2.85	2.85	7.31	4.47	4.88	3.25	4.06	4.47	3.59	4.06
		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Regional Laboratory, Sunder Nagar	6AM-2PM	4.29	5.58	6.86	4.29	6.86	6.00	5.14	5.56	5.99	4.71	3.85	5.99	3.85	4.28	5.56
		6.43	6.86	7.72	6.00	7.72	5.72	6.86	8.14	8.58	5.56	5.56	6.43	4.71	5.56	7.29
	2PM-10PM	7.29	8.15	8.58	6.86	8.58	-	7.72	9.00	7.29	5.99	7.29	8.58	7.29	7.29	5.99
		8.15	8.58	9.00	6.43	9.00	-	9.00	9.86	9.00	5.56	6.86	9.00	6.86	6.43	8.14
	10PM-6AM	6.86	7.29	6.86	7.29	7.29	6.43	7.29	8.58	8.14	6.86	6.43	6.86	5.14	8.14	7.29
		5.58	6.43	6.00	6.00	6.86	5.58	6.43	7.71	7.29	5.14	5.99	8.14	4.28	6.86	6.86
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Office Building, Shubkhera, Poanta Sahib	6AM-2PM	14.2	16.5	14.6	12.8	15.6	16.9	20.1	17.4	20.6	11.4	11.4	8.2	10.5	11.9	14.6
		15.1	17.8	18.3	15.1	17.4	18.8	17.4	18.3	16.5	13.3	13.3	11.4	12.8	14.2	17.8
	2PM-10PM	12.8	13.3	16.5	14.6	18.3	15.1	18.3	19.7	13.7	14.6	14.6	14.2	13.3	14.6	15.6
		14.6	14.2	13.3	16.0	15.1	20.1	25.6	21.5	23.3	15.6	15.6	13.7	13.7	17.8	13.7
	10PM-6AM	11.9	11.4	11.9	16.5	14.2	14.6	21.0	25.2	15.1	13.3	13.3	12.4	12.8	13.7	16.5
		10.5	8.2	9.6	11.4	13.7	13.3	17.8	34.8	13.3	14.6	14.6	9.6	11.9	12.8	11.4
	24 hour Avg.	13.2	13.6	14.0	14.4	15.7	16.5	20.0	22.8	17.1	13.8	13.8	11.6	12.5	14.2	14.9
ANNEXURE-II (b) NOx																

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Trilokpur, Kala Amb	6AM-2PM	9.15	6.40	10.52	12.35	10.98	17.07	16.46	16.92	18.29	12.35	9.60	11.43	8.23	11.43	8.23
		13.72	9.15	11.89	10.52	13.26	14.63	15.55	14.18	14.63	10.52	11.43	12.20	10.06	10.06	11.89
	2PM-10PM	11.89	12.35	16.46	15.55	15.09	16.46	18.90	16.01	12.80	11.89	13.26	13.26	11.89	13.26	12.80
		12.80	9.15	13.26	17.38	16.01	16.01	22.41	20.12	16.01	14.18	15.09	16.46	10.98	13.72	15.55
	10PM-6AM	10.52	9.60	15.55	12.80	13.03	13.72	18.75	23.32	14.18	12.80	10.06	9.15	11.43	12.80	14.63
		10.06	8.23	10.06	10.98	12.80	12.35	17.38	26.52	13.72	9.15	5.95	9.15	10.98	12.20	8.69
24 hour Avg.		11.4	9.1	13.0	13.3	13.5	15.0	18.2	19.5	14.9	11.8	10.9	11.9	10.6	12.2	12.0
Secure Meter, Baddi	6AM-2PM	14.8	10.2	9.7	12.5	12.1	Rainfall	12.5	11.6	12.0	12.0	15.3	11.6	9.7	12.0	13.9
		15.7	10.6	10.6	15.3	14.8		13.0	13.0	13.9	13.4	19.4	15.7	13.4	13.0	15.7
	2PM-10PM	18.0	12.5	16.2	15.7	18.0		13.4	15.3	17.6	15.3	17.6	13.9	16.2	14.8	18.0
		17.1	13.9	18.0	18.0	20.8		16.7	18.0	19.4	16.7	16.2	14.3	16.7	14.3	19.4
	10PM-6AM	13.9	15.3	17.1	19.0	18.0		18.0	17.1	18.0	14.3	20.8	16.7	15.7	16.7	17.6
		18.5	16.2	19.9	18.5	19.9		13.4	15.7	13.9	16.2	14.8	18.0	13.4	13.4	16.2
	24 hour Avg.		16.3	13.1	15.3	16.5		17.3	14.5	15.1	15.8	14.6	17.3	15.0	14.2	14.0
Durga Devi Temple, Nalagarh	6AM-2PM	12.5	9.3	12.0	12.0	11.6	Rainfall	8.3	9.3	15.3	10.2	11.6	14.3	11.6	12.0	11.1
		14.8	13.0	15.3	13.0	10.2		8.8	12.5	9.7	10.6	13.4	12.0	13.4	10.2	13.0
	2PM-10PM	11.1	11.6	10.6	9.3	12.5		11.1	11.1	11.1	13.4	10.6	13.0	15.3	13.4	10.2
		13.4	12.5	13.4	10.6	13.4		10.2	13.4	12.5	13.0	13.0	13.4	10.2	11.1	11.6
	10PM-6AM	11.6	8.8	12.5	13.9	14.3		13.0	10.2	9.3	12.0	12.0	10.6	10.6	14.8	13.9
		9.7	10.2	10.6	14.8	9.3		7.9	11.6	11.6	14.3	11.6	10.2	9.7	15.7	11.6
	24 hour Avg.		12.2	10.9	12.4	12.3		11.9	9.9	11.3	11.6	12.3	12.0	12.3	11.8	12.9

ANNEXURE-II (b) NOx

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring							
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023	
Regional Office, Una	6AM-2PM	6.48	11.09	17.37	4.47	15.44	11.43	17.07	18.29	8.13	10.97	12.19	8.94	9.34	8.10	8.10	
		5.82	16.09	15.54	14.22	17.07	Rainfall	26.01	17.47	20.32	11.78	13.41	8.53	8.94	7.72	8.94	
	2PM-10PM	6.04	12.72	17.83	13.41	18.29		20.73	19.10	24.39	13.82	12.60	9.34	10.16	9.34	10.16	
		6.70	12.72	15.09	13.00	15.04		23.17	18.69	25.20	11.78	13.82	10.16	10.97	10.16	9.75	
	10PM-6AM	-	14.26	13.26	10.16	19.51		24.39	19.51	26.82	12.60	16.26	8.53	9.75	8.53	11.89	
		-	13.04	11.89	8.53	19.91		17.88	20.32	23.17	11.38	15.44	8.94	11.78	8.94	10.16	
	24 hour Avg.	BDL	13.32	15.16	10.63	17.54		11.43	21.54	18.90	21.34	12.06	13.95	9.07	10.16	BDL	9.83
Hadimba Matta Road, Manali	6AM-2PM	2.97	2.97	4.09	3.72	3.72	Rainfall	-	7.45	6.77	6.71	8.94	3.72	4.09	3.72	-	
		2.97	4.11	4.47	-	4.09		4.47	8.08	7.43	7.08	8.94	4.09	4.47	4.47	4.47	
	2PM-10PM	4.47	4.50	4.50	-	4.83		5.21	11.52	10.27	9.69	9.32	5.58	7.08	5.58	5.67	
		4.83	4.85	4.85	4.47	4.47		4.83	13.05	11.22	9.32	9.32	7.45	5.58	5.21	5.13	
	10PM-6AM	4.00	4.09	4.09	3.34	-		3.72	10.75	6.22	6.71	6.71	3.72	3.72	3.72	3.72	3.68
		4.09	4.09	3.72	3.34	-		3.72	8.58	6.22	6.71	6.68	3.72	3.72	3.72	3.72	3.68
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL		BDL	BDL	9.90	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Note:= - Monitoring not conducted.																	

ANNEXURE-II (c) SO2

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Ram Gopal Mandir Damtal	6AM-2PM	2.00	2.00	2.00	2.00	2.00	Rainfall	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-
		2.00	2.00	2.00	2.00	2.00		2.00	2.00	2.00	2.00	2.00	2.00	2.00	-	-
	2PM-10PM	2.00	2.00	2.00	2.00	2.00		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	10PM-6AM	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Regional Laboratory, Sunder Nagar	6AM-2PM	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	1.48	0.98	0.49	0.98
		0.49	0.98	0.98	0.98	0.98	0.66	0.98	0.98	0.98	0.49	0.98	0.98	0.49	1.48	0.49
	2PM-10PM	0.98	1.48	0.49	0.49	0.98	-	0.98	0.49	0.49	0.98	0.49	1.48	0.49	0.98	0.98
		1.48	0.98	0.98	1.48	1.48	-	1.48	0.98	0.49	1.48	1.48	0.98	0.98	0.49	0.49
	10PM-6AM	0.98	0.98	0.49	0.98	0.98	0.98	0.98	0.49	0.98	0.49	0.98	0.49	1.48	0.49	0.49
		0.49	0.49	0.49	0.49	0.98	0.49	0.98	0.49	0.49	0.49	0.49	0.98	0.49	0.98	0.98
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Office Building, Shubkhera, Poanta Sahib	6AM-2PM	5.17	4.13	3.10	3.62	2.58	4.13	6.20	7.23	13.43	4.65	2.58	2.07	4.13	5.17	4.13
		5.68	5.17	4.65	4.13	5.17	4.65	4.65	7.58	6.72	5.68	4.13	3.62	3.10	4.65	5.17
	2PM-10PM	7.75	5.68	5.17	5.68	4.65	7.75	9.30	7.75	6.20	5.17	6.20	4.65	5.68	3.62	5.68
		6.20	7.23	7.75	4.65	7.23	8.27	11.37	8.78	7.75	7.23	4.13	5.17	6.72	7.23	7.75
	10PM-6AM	4.65	5.17	5.68	5.22	5.68	5.17	10.33	10.33	5.17	4.13	4.65	4.13	4.65	4.65	6.20
		3.10	4.13	4.13	4.13	3.10	4.65	7.75	16.02	4.13	4.65	3.44	1.55	3.62	4.13	4.65
	24 hour Avg.	5.43	5.25	5.08	4.57	4.74	5.77	8.27	9.62	7.23	5.25	4.19	3.53	4.65	4.91	5.60

ANNEXURE-II (C)SO2

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring							
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023	
Regional Office, Una	6AM-2PM	3.40	2.00	2.34	2.26	1.20	1.40	3.15	3.90	1.00	2.00	1.50	1.00	1.00	1.50	2.00	
		2.21	6.50	2.84	2.87	1.30	Rainfall	4.15	3.85	1.50	2.00	2.00	1.50	2.50	2.50	2.50	
	2PM-10PM	3.61	1.45	3.04	3.49	1.90		3.80	4.15	3.00	3.00	1.50	2.00	1.50	2.00	3.00	
		3.12	0.55	3.44	3.06	3.45		4.45	4.00	3.00	2.50	2.50	3.00	2.00	3.00	2.50	
	10PM-6AM	-	1.45	2.29	2.27	2.95		3.60	4.15	3.50	3.00	2.00	2.00	5.00	2.50	3.00	
		-	2.00	2.29	2.27	3.25		4.15	4.10	1.50	2.50	3.00	1.00	4.10	3.00	2.50	
	24 hour Avg.	3.09	2.33	2.71	2.70	2.34		BDL	3.88	4.03	2.25	2.50	2.08	1.75	2.68	2.42	2.58
Nehru Park, Manali	6AM-2PM	0.81	0.80	1.60	0.81	1.60	Rainfall	-	2.40	1.61	1.61	2.14	0.80	1.60	1.60	-	
		1.61	1.60	1.60	-	1.60		1.61	2.40	2.41	2.40	3.03	1.60	1.60	2.40	2.40	
	2PM-10PM	2.40	2.40	2.40	-	2.41		2.41	4.01	2.41	3.21	3.21	2.40	3.21	3.21	3.21	2.40
		2.40	2.40	2.40	1.61	2.41		2.41	4.01	4.01	2.40	2.40	3.21	3.21	3.21	2.40	
	10PM-6AM	1.61	0.80	0.80	0.81	-		1.61	3.21	1.61	1.61	1.61	1.60	1.60	1.60	1.60	
		0.81	0.80	0.80	0.81	-		1.61	2.40	0.80	1.61	3.22	1.60	1.60	1.60	1.60	
	24 hour Avg.	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	2.14	2.60	BDL	2.14	2.27	2.08

Note:= - Monitoring not conducted.

ANNEXURE-II (d)																	
RSPM(PM2.5) in ug/m ³																	
24 Hour Standard for Industrial, Residential & Others=60 ug/m ³																	
Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring							
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023		11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Tekka Bench, The Mall, Shimla	24 hour Avg.	12.9	12.1	14.6	16.7	17.6	20.5	23.3	47.1	30.0	20.4	15.8	16.7	20.8	19.1	21.6	
Parwanoo, Sector-IV	24 hour Avg.	4.9	5.8	9.1	4.4	11.8	9.8	4.5	22.9	7.9	11.2	10.5	8.8	9.9	5.5	11.9	
Dari, Dharamshala	24 hour Avg.	21.0	19.0	16.0	21.0	30.0	13.0	28.0	72.0	22.0	25.0	20.0	29.0	17.0	26.0	24.0	
Ram Gopal Mandir Damtal	24 hour Avg.	21.0	24.0	26.0	16.0	15.0	16.0	19.0	20.0	19.0	19.0	18.0	20.0	21.0	19.0	18.0	
Regional Laboratory, Sunder Nagar	24 hour Avg.	23.0	28.0	27.0	31.0	30.0	25.0	25.0	35.0	30.0	27.0	24.0	23.0	25.0	21.0	30.0	
Office Building, Shubkhara, Poanta Sahib	24 hour Avg.	26.6	40.0	29.8	48.1	50.0	63.3	56.0	50.6	53.9	46.7	27.1	19.7	29.8	40.2	38.3	
Trilokpur, Kala Amb	24 hour Avg.	41.8	29.4	30.2	26.3	36.4	49.0	34.2	44.0	37.6	34.8	28.1	30.9	24.0	30.8	28.6	
Regional Office, Una	24 hour Avg.	31.25	25.0	29.16	29.16	37.50	Rainfall	41.66	62.50	45.83	29.16	41.66	33.33	45.83	33.33	37.50	
Secure Meter, Baddi	24 hour Avg.	29.1	37.5	29.1	33.4	37.5		29.2	33.3	33.3	37.5	33.3	33.3	33.3	33.3	33.3	29.2
Durga Devi Temple, Nalagarh	24 hour Avg.	20.8	25.0	20.8	25.0	29.2		25.0	25.0	25.0	25.0	25.0	25.0	25.0	20.8	25.0	20.8
Hadimba Matta Road, Manali	24 hour Avg.	8.33	8.33	8.33	7.12	12.50		14.99	16.66	12.50	14.86	14.92	8.33	8.32	8.30	10.00	

ANNEXURE-II (e)																
O ₃ in ug/m ³																
24 Hour Standard for Industrial, Residential & Others=100 ug/m ³																
Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Tekka Bench, The Mall, Shimla	6AM-2PM	21.3	10.3	9.9	10.6	8.9	5.6	7.6	6.3	2.6	3.0	3.1	3.3	3.7	4.3	4.3
	2PM-10PM	26.5	11.4	9.6	10.0	10.9	11.3	9.0	7.5	3.8	4.5	4.3	4.2	5.0	4.9	4.9
	10PM-6AM	19.9	9.1	8.8	9.0	8.6	8.4	9.3	8.2	4.6	2.4	2.6	2.7	2.8	3.0	3.1
	24 hour Avg.	22.6	10.3	9.4	9.9	9.5	8.4	8.6	7.3	3.7	3.3	3.3	3.4	3.8	4.1	4.1
Parwanoo, Sector-IV	6AM-2PM	1.02	1.87	0.63	1.23	1.40	0.83	1.27	0.94	1.24	0.68	0.72	0.68	1.13	1.02	0.79
	2PM-10PM	0.47	1.32	0.93	0.81	1.23	0.85	1.44	1.02	0.77	0.99	0.81	0.76	1.31	0.89	0.89
	10PM-6AM	0.60	2.21	0.81	0.89	1.02	1.23	1.36	0.89	0.98	0.65	0.76	0.64	2.00	1.32	0.89
	24 hour Avg.	0.70	1.80	0.79	0.98	1.22	0.97	1.35	0.92	0.98	0.77	0.76	0.69	1.48	1.07	0.81
Residential Building Dari Dharamshala (795)	6AM-2PM	1.57	1.33	1.08	0.85	1.30	1.17	1.37	1.26	1.21	1.03	1.30	1.57	0.94	1.03	0.67
	2PM-10PM	2.20	1.84	1.89	2.02	1.57	Rain	1.93	2.52	2.16	2.25	1.84	2.07	2.02	1.89	2.74
	10PM-6AM	0.81	1.57	1.30	1.39	1.35	1.53	1.39	1.71	1.62	1.39	1.57	0.94	1.35	1.48	1.30
	24 hour Avg.	1.53	1.58	1.42	1.42	1.41	1.35	1.56	1.83	1.66	1.56	1.57	1.53	1.43	1.47	1.57
Ram Gopal Mandir Damtal	6AM-2PM	1.12	1.20	1.35	1.17	1.12	Rain	0.81	1.21	1.08	1.12	1.03	1.11	-	-	-
	2PM-10PM	1.26	1.35	1.44	1.57	1.39	0.81	1.26	1.89	1.80	1.71	1.84	1.71	1.75	1.80	1.84
	10PM-6AM	0.94	1.03	1.08	1.08	0.94	0.58	1.67	1.71	1.48	1.57	1.66	1.53	1.57	1.62	1.53
	24 hour Avg.	1.11	1.19	1.26	1.27	1.15	0.70	0.91	1.60	1.45	1.47	1.51	1.45	1.66	1.71	1.69
Regional Laboratory, Sunder Nagar	6AM-2PM	1.82	1.68	1.47	0.31	4.41	0.36	3.40	2.31	0.38	0.52	0.45	0.84	1.01	2.20	1.82
	2PM-10PM	2.94	1.79	5.68	0.14	3.61	-	1.68	1.40	0.69	0.52	0.66	0.94	3.92	3.96	3.78
	10PM-6AM	1.50	1.26	4.43	0.42	3.04	0.52	1.26	1.16	1.36	2.28	2.48	0.94	3.50	4.24	3.50
	24 hour Avg.	2.09	1.58	3.86	0.29	4.41	0.44	2.11	1.62	0.81	1.11	1.20	0.91	2.81	3.47	3.03

ANNEXURE-II (e) O₃

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Office Building, Shubkhera, Poanta Sahib	6AM-2PM	2.88	3.12	3.42	3.18	4.19	5.83	6.44	9.00	11.26	5.26	4.76	3.89	5.23	4.22	4.73
	2PM-10PM	3.32	3.42	4.16	5.23	4.49	6.80	10.49	5.83	4.56	4.29	2.21	3.32	2.82	4.99	4.12
	10PM-6AM	3.12	2.71	3.12	4.39	5.30	4.89	11.93	17.06	3.25	3.45	2.22	2.71	2.08	3.82	3.55
	24 hour Avg.	3.11	3.08	3.57	4.27	4.66	5.84	9.62	10.63	6.36	4.33	3.06	3.31	3.38	4.34	4.13
Trilokpur, Kala Amb	6AM-2PM	4.42	2.78	3.85	3.05	4.06	11.34	13.81	14.58	7.07	5.20	4.76	3.37	2.31	4.52	5.20
	2PM-10PM	5.09	5.09	6.54	5.56	8.48	3.62	9.61	7.21	6.30	4.02	2.15	2.87	1.47	5.87	4.39
	10PM-6AM	5.33	3.12	4.42	3.45	4.83	3.12	12.33	8.14	4.19	3.18	2.41	2.60	1.58	3.06	3.42
	24 hour Avg.	4.95	3.66	4.94	4.02	5.79	6.03	11.92	9.98	5.85	4.13	3.11	2.95	1.79	4.48	4.34
Regional Office, Una	6AM-2PM	2.54	2.31	2.51	2.44	2.14	0.81	3.10	1.98	2.41	1.84	2.07	2.17	1.84	1.98	2.41
	2PM-10PM	2.64	2.24	2.31	2.07	2.07	Rainfall	4.12	3.10	2.61	2.41	1.97	2.24	3.10	2.41	2.61
	10PM-6AM	-	0.67	0.50	0.53	0.50		3.90	2.48	2.58	2.53	2.14	2.31	1.17	1.10	1.10
	24 hour Avg.	2.59	1.74	1.77	1.68	1.57	0.81	3.71	2.52	2.53	2.26	2.06	2.24	2.04	1.83	2.04

Note:= - Monitoring not conducted.

ANNEXURE-II (f)																
CO in mg/m ³																
24 Hour Standard for Industrial, Residential & Others=02 mg/m3																
Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023		11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023
Regional Office, Una	6AM-2PM	0.78	0.83	0.82	0.72	0.70	0.38	0.82	0.69	0.84	0.71	0.76	0.78	0.85	0.66	0.76
	2PM-10PM	0.85	0.97	1.03	0.88	0.76	0.43	0.86	0.85	0.78	0.52	0.74	0.66	0.77	0.56	0.72
	10PM-6AM	0.77	0.95	0.82	0.83	0.82	0.40	0.88	0.83	0.91	0.73	0.70	0.73	0.72	0.62	0.54
	24 hour Avg.	0.80	0.92	0.89	0.81	0.76	0.40	0.85	0.79	0.84	0.65	0.73	0.72	0.78	0.61	0.67
Sector-4, Parwanoo	6AM-2PM	0.28	0.26	0.21	0.20	0.30	0.30	0.42	0.29	0.57	0.23	0.22	0.23	0.23	0.20	0.24
	2PM-10PM	0.28	0.27	0.20	0.20	0.31	0.30	0.41	0.60	0.28	0.21	0.44	0.26	0.22	0.24	0.22
	10PM-6AM	0.27	0.28	0.21	0.21	0.30	0.31	0.42	0.66	0.36	0.22	0.33	0.27	0.24	0.26	0.25
	24 hour Avg.	0.28	0.27	0.21	0.20	0.30	0.30	0.41	0.52	0.40	0.22	0.33	0.25	0.23	0.23	0.24
Ram Gopal Mandir Damtal	6AM-2PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2PM-10PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10PM-6AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24 hour Avg.	0.13	0.13	0.14	0.14	0.14	0.13	0.13	0.15	0.15	0.14	0.13	0.13	0.14	0.14	0.14
Durga Devi Temple Nalagarh	6AM-2PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2PM-10PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10PM-6AM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	24 hour Avg.	0.7	0.7	0.7	0.5	0.6	Rain	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.6
Kala Amb	6AM-2PM	0.34	0.38	0.41	0.35	0.47	0.40	0.43	0.29	0.34	0.38	0.35	0.43	0.22	0.36	0.38
	2PM-10PM	0.36	0.39	0.37	0.37	0.45	0.59	0.29	0.28	0.31	0.37	0.48	0.51	0.32	0.52	0.63
	10PM-6AM	0.34	0.36	0.41	0.35	0.40	0.40	0.34	0.29	0.31	0.44	0.39	0.03	0.29	0.33	0.54
	24 hour Avg.	0.35	0.38	0.40	0.36	0.44	0.46	0.35	0.29	0.32	0.40	0.41	0.32	0.28	0.40	0.52

Paonta Sahib	6AM-2PM	0.49	0.37	0.34	0.15	0.10	0.10	0.34	0.16	0.74	0.40	0.48	0.51	0.16	0.45	0.61
	2PM-10PM	1.18	1.12	1.09	0.86	0.36	1.43	0.84	0.98	2.11	0.68	0.32	0.10	0.10	0.96	0.47
	10PM-6AM	0.36	0.53	0.64	0.49	0.50	0.59	0.61	0.51	0.73	1.07	0.91	0.38	0.67	1.64	1.23
	24 hour Avg.	0.68	0.67	0.69	0.50	0.32	0.71	0.60	0.55	1.19	0.72	0.57	0.33	0.31	1.02	0.77

Note:= - Monitoring not conducted.

ANNEXURE-II (g)																
NH ₃ in ug/m ³																
24 Hour Standard for Industrial, Residential & Others=400 ug/m ³																
Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Tekka Bench, The Mall, Shimla	6AM-2PM	1.60	1.00	1.10	1.00	1.20	1.30	1.10	1.10	1.30	1.20	1.20	1.20	1.20	1.00	1.00
		2.20	2.50	2.10	2.00	1.90	1.40	1.20	1.40	2.50	2.00	1.80	1.70	1.50	1.70	1.30
	2PM-10PM	2.80	3.10	2.80	2.60	2.60	-	2.20	2.00	1.50	2.40	2.10	2.70	2.20	2.10	2.40
		2.10	2.50	2.30	2.40	2.40	2.20	2.10	2.80	2.00	1.80	1.60	1.60	1.70	1.90	2.20
	10PM-6AM	1.80	1.20	1.60	1.50	1.30	1.90	1.80	3.00	1.40	1.20	1.10	1.00	1.00	0.90	0.80
		1.50	1.00	1.30	1.30	1.10	1.50	1.60	10.60	1.10	0.80	0.70	0.70	0.80	0.70	0.70
24 hour Avg.		2.00	1.88	1.87	1.80	1.75	1.66	1.67	3.48	1.63	1.57	1.42	1.48	1.40	1.38	1.40
Sector-4- Residential Parwanoo	6AM-2PM	0.06	0.29	0.19	0.25	0.12	0.14	0.10	0.13	0.81	0.18	0.12	0.10	0.12	0.10	0.10
		0.05	0.28	0.24	0.22	0.18	0.09	0.13	0.10	0.22	-	0.13	0.13	0.08	0.11	0.11
	2PM-10PM	0.04	0.18	0.10	0.18	0.16	-	0.13	0.13	0.17	0.26	0.13	0.12	0.12	0.13	0.13
		0.06	0.23	0.10	0.14	0.16	0.10	0.15	0.16	0.64	0.14	0.14	0.11	0.07	0.14	0.12
	10PM-6AM	0.10	0.16	0.13	0.15	0.14	0.10	0.17	0.90	0.65	0.11	0.16	0.10	0.11	0.12	0.08
		0.08	0.22	0.10	0.17	0.12	0.22	0.33	0.58	0.12	0.15	0.11	0.18	0.17	0.17	0.13
	24 hour Avg.		0.06	0.22	0.14	0.18	0.15	0.11	0.15	0.29	0.51	0.13	0.14	0.11	0.11	0.13
Residential Building Dari Dharamshala	6AM-2PM	0.45	0.17	0.19	0.24	0.37	0.29	0.33	0.33	0.29	0.26	0.19	0.31	0.23	0.24	0.26
	2PM-10PM	0.60	0.61	0.52	0.50	0.51	Rain	0.47	0.63	0.54	0.54	0.50	0.47	0.50	0.45	0.45
	10PM-6AM	0.43	0.37	0.32	0.35	0.27	0.37	0.32	0.45	0.42	0.32	0.40	0.32	0.29	0.35	0.40
	24 hour Avg.	0.49	0.38	0.34	0.36	0.38	0.33	0.37	0.47	0.42	0.37	0.36	0.37	0.34	0.35	0.37

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring						
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023
Ram Gopal Mandir Damtal	6AM-2PM	0.29	0.34	0.31	0.28	0.29	Rain	0.27	0.32	0.28	0.29	0.27	0.32	-	-	-
	2PM-10PM	0.34	0.37	0.38	0.36	0.37	0.18	0.32	0.45	0.40	0.43	0.45	0.46	0.42	0.45	0.41
	10PM-6AM	0.26	0.28	0.26	0.23	0.26	0.14	0.24	0.37	0.31	0.33	0.34	0.38	0.37	0.37	0.38
	24 hour Avg.	0.30	0.31	0.32	0.29	0.31	0.16	0.28	0.38	0.33	0.35	0.35	0.39	0.40	0.41	0.40
Regional Laboratory, Sunder Nagar	6AM-2PM	3.60	4.20	4.20	3.60	4.20	4.50	4.50	3.30	2.70	3.60	3.90	3.90	4.20	3.60	4.20
		4.81	5.11	4.81	4.50	4.81	4.41	5.11	5.41	3.60	4.20	5.11	5.11	5.71	4.81	4.81
	2PM-10PM	5.71	5.41	5.41	5.11	5.41	-	5.71	5.11	3.90	5.41	4.50	3.90	6.31	6.00	5.11
		6.31	6.00	6.00	5.71	6.00	-	5.41	6.90	5.11	4.50	5.41	4.20	5.11	5.41	3.90
	10PM-6AM	5.11	4.81	4.50	4.81	5.11	4.81	4.81	6.31	4.20	5.11	4.81	5.71	5.71	4.50	5.71
		4.20	3.60	3.60	4.20	3.90	4.20	3.90	6.00	4.50	3.30	4.20	6.00	4.50	5.11	3.60
24 hour Avg.	4.96	4.85	4.75	4.66	4.91	4.48	4.91	5.51	4.00	4.35	4.66	4.80	5.26	4.91	4.56	
Office Building, Shubkhera, Poanta Sahib	6AM-2PM	1.60	1.16	1.32	1.16	1.54	2.07	3.18	6.52	6.30	2.51	1.95	1.31	1.57	1.69	1.75
		1.60	1.16	1.32	1.20	1.54	2.07	3.18	6.52	6.30	2.51	1.95	1.30	1.57	1.69	1.75
	2PM-10PM	1.77	1.26	1.61	1.51	1.92	2.71	6.03	4.96	1.96	1.77	1.40	1.70	1.51	1.60	1.90
		1.77	1.26	1.61	1.50	1.92	2.71	6.03	4.96	1.96	1.77	1.40	1.70	1.51	1.60	1.90
	10PM-6AM	1.48	1.00	1.48	1.60	1.81	1.87	6.86	8.08	2.30	2.01	1.29	1.08	1.40	1.00	1.40
		1.50	1.00	1.48	1.60	1.81	1.87	6.86	8.08	2.30	2.01	1.29	1.08	1.40	1.00	1.40
24 hour Avg.	1.62	1.14	1.47	1.43	1.76	2.22	5.36	6.52	3.52	2.10	1.55	1.36	1.49	1.43	1.68	
Trilokpur, Kala Amb	6AM-2PM	1.16	1.00	1.00	1.42	1.34	1.79	3.01	3.26	4.05	1.75	1.89	1.58	1.00	1.42	1.54
		1.16	1.00	1.00	1.42	1.34	1.79	3.01	3.26	4.05	1.75	1.89	1.58	1.00	1.42	1.54
	2PM-10PM	1.49	1.03	1.40	1.08	2.07	2.45	4.45	4.57	2.27	1.55	1.35	1.20	1.00	1.31	1.75
		1.49	1.03	1.40	1.08	2.07	2.45	4.45	4.57	2.27	1.55	1.35	1.20	1.00	1.31	1.75
	10PM-6AM	1.29	1.14	1.31	1.37	1.55	1.80	3.33	5.84	1.55	1.38	1.00	1.00	1.00	1.00	1.00
		1.29	1.14	1.31	1.37	1.55	1.80	3.33	5.84	1.55	1.38	1.00	1.00	1.00	1.00	1.00
24 hour Avg.	1.31	1.06	1.24	1.29	1.65	2.01	3.60	4.56	2.62	1.56	1.41	1.26	1.00	1.24	1.43	

ANNEXURE-II (g)

Area and Location	Time of sampling	Pre Diwali Monitoring							Diwali Day	Post Diwali Monitoring							
		11/5/2023	11/6/2023	11/7/2023	11/8/2023	11/9/2023	11/10/2023	11/11/2023	11/12/2023	11/13/2023	11/14/2023	11/15/2023	11/16/2023	11/17/2023	11/18/2023	11/19/2023	
Hadimba Matta Road, Manali	6AM-2PM	1.53	1.54	1.69	1.54	1.55	Rainfall	1.66	2.28	1.87	1.69	1.98	1.45	1.69	1.50	2.57	
	2PM-10PM	1.94	2.22	2.33	1.87	2.33		2.33	3.16	2.39	2.19	1.99	1.94	2.22	2.20	2.19	
	10PM-6AM	1.45	1.49	1.53	1.49	-		1.53	2.90	1.57	1.54	2.26	1.86	1.86	1.54	1.56	
	24 hour Avg.	1.64	1.75	1.85	1.63	1.94		1.84	2.78	1.94	1.81	2.08	1.75	1.92	1.75	2.11	
Regional Office, Una	6AM-2PM	3.86	4.96	1.80	1.25	7.90	2.10	4.78	1.08	2.10	2.61	8.83	6.72	4.67	3.92	4.10	
		3.86	4.96	1.80	1.25	7.90	2.10	4.78	1.08	2.10	2.61	8.83	6.72	4.67	3.92	4.10	
	2PM-10PM	3.75	3.90	6.47	2.39	7.30	0.92	4.72	12.98	3.41	9.54	8.09	5.94	3.81	4.10	3.79	
		3.75	3.90	6.47	2.39	7.30	0.92	4.72	12.98	3.41	9.54	8.09	5.94	3.81	4.10	3.79	
	10PM-6AM	3.10	3.57	6.50	3.81	7.60	0.72	4.96	0.49	2.43	9.84	9.85	6.10	4.20	4.87	3.10	
		3.10	3.57	6.50	3.81	7.60	0.72	4.96	0.49	2.43	9.84	9.85	6.10	4.20	4.87	3.10	
24 hour Avg.	3.57	4.14	4.92	2.48	7.60	1.25	4.82	4.85	2.65	7.33	8.92	6.25	4.23	4.30	3.66		
Durga Devi Temple, Nalagarh	6AM-2PM	-	-	-	-	-	Rainfall	-	-	-	-	-	-	-	-	-	
		-	-	-	-	-		-	-	-	-	-	-	-	-	-	
	2PM-10PM	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	10PM-6AM	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	24 hour Avg.	6.92	7.33	5.84	6.73	5.74		5.44	6.97	5.39	6.12	4.99	5.82	5.97	6.40	7.38	

Note: - Monitoring not conducted.

Annexure-III

Date	Tekka Bench, Shimla											
	Regulatory Parameters						Metals in PM10			Proposed New Parameters		
	SO ₂ (ug/m ³)	NO _x (ug/m ³)	PM10 (ug/m ³)	PM 2.5 (ug/m ³)	O ₃ ug/m ³	NH ₃ ug/m ³				Metals/Elements in PM 2.5		
							In ug/m ³					
							Pb (ug/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al	Fe	Ba
11/5/2023	BDL	10.4	23.9	12.9	22.6	2.00	ND	ND	ND	ND	1.63	3.28
11/6/2023	BDL	BDL	20.0	12.1	10.3	1.88	ND	ND	ND	ND	0.775	4.54
11/7/2023	BDL	BDL	28.0	14.6	9.4	1.87	ND	ND	ND	ND	2.06	7.39
11/8/2023	BDL	BDL	53.3	16.7	9.9	1.80	ND	ND	ND	ND	ND	ND
11/9/2023	BDL	BDL	59.6	17.6	9.5	1.75	ND	ND	ND	ND	ND	2.97
11/10/2023	BDL	BDL	46.8	20.5	8.4	1.66	ND	ND	ND	ND	ND	1.98
11/11/2023	BDL	9.6	25.0	23.3	8.6	1.67	ND	ND	ND	ND	ND	ND
11/12/2023	4.6	11.6	61.1	47.1	7.3	3.48	ND	ND	ND	ND	3.46	1.06
11/13/2023	BDL	9.7	32.1	30.0	3.7	1.63	ND	ND	ND	ND	ND	1.54
11/14/2023	BDL	BDL	22.8	20.4	3.3	1.57	ND	ND	ND	ND	ND	ND
11/15/2023	BDL	BDL	17.8	15.8	3.3	1.42	ND	ND	ND	ND	ND	ND
11/16/2023	BDL	BDL	20.0	16.7	3.4	1.48	ND	ND	ND	ND	ND	ND
11/17/2023	BDL	9.0	22.9	20.8	3.8	1.40	ND	ND	ND	ND	ND	ND
11/18/2023	BDL	BDL	28.5	19.1	4.1	1.38	ND	ND	ND	ND	ND	ND
11/19/2023	BDL	9.0	26.7	21.6	4.1	1.40	ND	ND	ND	ND	ND	ND

Annexure-III

Parwanoo, Sector-IV

Regulatory Parameters

Proposed New Parameters

SO ₂ (ug/m ³)	NO _x (ug/m ³)	PM ₁₀ (ug/m ³)	PM _{2.5} (ug/m ³)	O ₃ ug/m ³	NH ₃ ug/m ³	CO mg/m ³	Metals in PM ₁₀			Metals/Elements in PM _{2.5}		
							In ug/m ³			Al	Fe	Ba
							Pb (ug/m ³)	Ni (ng/m ³)	As (ng/m ³)			
BDL	BDL	30.0	4.9	0.7	0.06	0.28	ND	ND	ND	ND	0.258	5.30
BDL	11.8	30.6	5.8	1.8	0.22	0.27	ND	ND	ND	ND	0.204	ND
BDL	10.1	49.0	9.1	0.8	0.14	0.21	ND	ND	ND	ND	0.462	7.89
BDL	BDL	34.4	4.4	1.0	0.18	0.20	ND	ND	ND	ND	0.361	ND
BDL	BDL	33.8	11.8	1.2	0.15	0.30	ND	ND	ND	ND	0.412	ND
BDL	BDL	41.0	9.8	1.0	0.11	0.30	ND	ND	ND	ND	0.189	ND
2.4	BDL	23.0	4.5	1.4	0.15	0.41	ND	ND	ND	ND	0.1	ND
BDL	BDL	87.0	22.9	0.9	0.29	0.52	ND	ND	ND	ND	0.362	ND
BDL	BDL	31.0	7.9	1.0	0.51	0.40	ND	ND	ND	ND	0.258	ND
BDL	BDL	41.0	11.2	0.8	0.13	0.22	ND	ND	ND	ND	ND	ND
BDL	BDL	37.0	10.5	0.8	0.14	0.33	ND	ND	ND	ND	ND	ND
BDL	BDL	35.0	8.8	0.7	0.11	0.25	ND	ND	ND	ND	ND	ND
BDL	BDL	36.0	9.9	1.5	0.11	0.23	ND	ND	ND	ND	ND	ND
BDL	BDL	28.0	5.5	1.1	0.13	0.23	ND	ND	ND	ND	ND	ND
BDL	BDL	38.0	11.9	0.8	0.11	0.24	ND	ND	ND	ND	0.154	ND

ANNEXURE-III

Date	Residential Building Dari Dharamshala (795)											
	Regulatory Parameters						Metals in PM10			Proposed New Parameters		
	SO ₂ (ug/m ³)	NO _x (ug/m ³)	PM10 (ug/m ³)	PM 2.5 (ug/m ³)	O ₃ ug/m ³	NH ₃ ug/m ³				Metals/Elements in PM 2.5		
							In ug/m ³					
	Pb (ug/m ³)	Ni (ng/m ³)	As (ng/m ³)	Al	Fe	Ba						
11/5/2023	BDL	BDL	54.0	21.0	1.5	0.49	ND	ND	ND	ND	ND	0.09
11/6/2023	BDL	BDL	48.0	19.0	1.6	0.38	ND	ND	ND	ND	ND	0.01
11/7/2023	BDL	BDL	41.0	16.0	1.4	0.34	ND	ND	ND	ND	ND	0.03
11/8/2023	BDL	BDL	40.0	21.0	1.4	0.36	ND	ND	ND	ND	ND	0.09
11/9/2023	BDL	BDL	49.0	30.0	1.4	0.38	ND	ND	ND	ND	ND	0.02
11/10/2023	BDL	BDL	31.0	13.0	1.4	0.33	ND	ND	ND	ND	ND	0.06
11/11/2023	BDL	BDL	46.0	28.0	1.6	0.37	ND	ND	ND	ND	ND	0.07
11/12/2023	BDL	BDL	128.0	72.0	1.8	0.47	ND	ND	ND	ND	ND	0.26
11/13/2023	BDL	BDL	55.0	22.0	1.7	0.42	ND	ND	ND	ND	ND	0.19
11/14/2023	BDL	BDL	56.0	25.0	1.6	0.37	ND	ND	ND	ND	ND	0.05
11/15/2023	BDL	BDL	61.0	20.0	1.6	0.36	ND	ND	ND	ND	ND	0.39
11/16/2023	BDL	BDL	62.0	29.0	1.5	0.37	ND	ND	ND	ND	ND	0.06
11/17/2023	BDL	BDL	39.0	17.0	1.4	0.34	ND	ND	ND	ND	ND	0.17
11/18/2023	BDL	BDL	48.0	26.0	1.5	0.35	ND	ND	ND	ND	ND	0.13
11/19/2023	BDL	BDL	59.0	24.0	1.6	0.37	ND	ND	ND	ND	ND	0.02

ANNEXURE-III

Date	Ram Gopal Mandir, Damtal													
	Regulatory Parameters							CO mg/m ³	Metals in PM10			Proposed New Parameters		
	SO ₂ (ug/m ³)	NO _x (ug/m ³)	PM10 (ug/m ³)	PM 2.5 (ug/m ³)	O ₃ ug/m ³	NH ₃ ug/m ³	Metals/Elements in PM 2.5							
							In ug/m ³			Al	Fe	Ba		
	Pb (ug/m ³)	Ni (ng/m ³)	As (ng/m ³)											
11/5/2023	BDL	BDL	52.0	21.0	1.1	0.30	0.13	ND	ND	ND	ND	ND	0.72	
11/6/2023	BDL	BDL	53.0	24.0	1.2	0.31	0.13	ND	ND	ND	ND	ND	0.18	
11/7/2023	BDL	BDL	52.0	26.0	1.3	0.32	0.14	ND	ND	ND	ND	ND	0.05	
11/8/2023	BDL	BDL	48.0	16.0	1.3	0.29	0.14	ND	ND	ND	ND	ND	1.57	
11/9/2023	BDL	BDL	62.0	15.0	1.2	0.31	0.14	ND	ND	ND	ND	ND	0.04	
11/10/2023	BDL	BDL	42.0	16.0	0.7	0.16	0.13	ND	ND	ND	ND	ND	0.47	
11/11/2023	BDL	BDL	38.0	19.0	0.9	0.28	0.13	ND	ND	ND	ND	ND	0.10	
11/12/2023	BDL	BDL	60.0	20.0	1.6	0.38	0.15	ND	ND	ND	ND	ND	0.02	
11/13/2023	BDL	BDL	51.0	19.0	1.5	0.33	0.15	ND	ND	ND	ND	ND	0.14	
11/14/2023	BDL	BDL	45.0	19.0	1.5	0.35	0.14	ND	ND	ND	ND	ND	0.18	
11/15/2023	BDL	BDL	39.0	18.0	1.5	0.35	0.13	ND	ND	ND	ND	ND	0.11	
11/16/2023	BDL	BDL	48.0	20.0	1.5	0.39	0.13	ND	ND	ND	ND	ND	0.06	
11/17/2023	BDL	BDL	53.0	21.0	1.7	0.40	0.14	ND	ND	ND	ND	ND	0.30	
11/18/2023	BDL	BDL	49.0	19.0	1.7	0.41	0.14	ND	ND	ND	ND	ND	0.53	
11/19/2023	BDL	BDL	41.0	18.0	1.7	0.40	0.14	ND	ND	ND	ND	ND	0.32	

ANNEXURE-III

Date	Regional Office, Sunder Nagar											
	Regulatory Parameters						Metals in PM10			Proposed New Parameters		
	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	O3 ug/m3	NH3 ug/m3				Metals/Elements in PM 2.5		
							In ug/m3					
							Pb (ug/m3)	Ni (ng/m3)	As (ng/m3)	Al	Fe	Ba
11/5/2023	BDL	BDL	45.0	23.0	2.1	4.96	ND	ND	ND	ND	0.06	ND
11/6/2023	BDL	BDL	57.9	28.0	1.6	4.85	ND	ND	ND	ND	0.08	ND
11/7/2023	BDL	BDL	53.5	27.0	3.9	4.75	ND	ND	ND	ND	ND	ND
11/8/2023	BDL	BDL	63.1	31.0	0.3	4.66	ND	ND	ND	ND	ND	ND
11/9/2023	BDL	BDL	61.9	30.0	4.4	4.91	ND	ND	ND	ND	ND	ND
11/10/2023	BDL	BDL	51.2	25.0	0.4	4.48	ND	ND	ND	ND	ND	ND
11/11/2023	BDL	BDL	50.7	25.0	2.1	4.91	ND	ND	ND	ND	ND	ND
11/12/2023	BDL	BDL	63.8	35.0	1.6	5.51	ND	ND	ND	ND	0.08	0.36
11/13/2023	BDL	BDL	52.0	30.0	0.8	4.00	ND	ND	ND	ND	0.03	ND
11/14/2023	BDL	BDL	49.1	27.0	1.1	4.35	ND	ND	ND	ND	0.08	ND
11/15/2023	BDL	BDL	42.4	24.0	1.2	4.66	ND	ND	ND	ND	ND	ND
11/16/2023	BDL	BDL	44.8	23.0	0.9	4.80	ND	ND	ND	ND	ND	ND
11/17/2023	BDL	BDL	47.7	25.0	2.8	5.26	ND	ND	ND	ND	0.06	ND
11/18/2023	BDL	BDL	42.0	21.0	3.5	4.91	ND	ND	ND	ND	ND	ND
11/19/2023	BDL	BDL	52.8	30.0	3.0	4.56	ND	ND	ND	ND	0.06	ND

ANNEXURE-III

Date	Office Building, Shubkhera, Poanta Sahib												
	Regulatory Parameters							Metals in PM10			Proposed New Parameters		
	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	O3 ug/m3	NH3 ug/m3	CO mg/m3				Metals/Elements in PM 2.5		
								In ug/m3					
								Pb (ug/m3)	Ni (ng/m3)	As (ng/m3)	Al	Fe	Ba
11/5/2023	5.4	13.2	120.1	26.6	3.1	1.62	0.68	ND	ND	ND	ND	ND	0.01
11/6/2023	5.3	13.6	86.0	40.0	3.1	1.14	0.67	ND	ND	ND	2.99	ND	0.04
11/7/2023	5.1	14.0	91.2	29.8	3.6	1.47	0.69	ND	ND	ND	ND	ND	0.04
11/8/2023	4.6	14.4	77.2	48.1	4.3	1.43	0.50	ND	ND	ND	0.17	0.06	0.35
11/9/2023	4.7	15.7	115.8	50.0	4.7	1.76	0.32	ND	ND	ND	6.55	0.06	0.03
11/10/2023	5.8	16.5	129.0	63.3	5.8	2.22	0.71	ND	ND	ND	6.38	0.12	0.14
11/11/2023	8.3	20.0	126.6	56.0	9.6	5.36	0.60	ND	ND	ND	3.42	ND	0.10
11/12/2023	9.6	22.8	115.9	50.6	10.6	6.52	0.55	0.05	ND	ND	9.84	0.19	0.34
11/13/2023	7.2	17.1	108.9	53.9	6.4	3.52	1.19	ND	0.02	ND	6.42	ND	0.35
11/14/2023	5.3	13.8	62.9	46.7	4.3	2.10	0.72	ND	ND	ND	ND	ND	0.13
11/15/2023	4.2	13.8	94.8	27.1	3.1	1.55	0.57	ND	ND	ND	ND	0.20	0.28
11/16/2023	3.5	11.6	67.8	19.7	3.3	1.36	0.33	ND	ND	ND	ND	2.40	1.98
11/17/2023	4.7	12.5	102.1	29.8	3.4	1.49	0.31	ND	ND	ND	ND	0.81	1.87
11/18/2023	4.9	14.2	73.9	40.2	4.3	1.43	1.02	ND	ND	ND	ND	ND	ND
11/19/2023	5.6	14.9	98.4	38.3	4.1	1.68	0.77	ND	ND	ND	ND	0.62	0.12

ANNEXURE-III

Trilokpur, Kala Amb														
Date	Regulatory Parameters							CO mg/m ³	Metals in PM10			Proposed New Parameters		
	SO ₂ (ug/m ³)	NO _x (ug/m ³)	PM10 (ug/m ³)	PM 2.5 (ug/m ³)	O ₃ ug/m ³	NH ₃ ug/m ³	Metals/Elements in PM 2.5							
							In ug/m ³							
							Pb (ug/m ³)		Ni (ng/m ³)	As (ng/m ³)	Al	Fe	Ba	
11/5/2023	4.9	11.4	63.7	41.8	4.9	1.31	0.35	ND	ND	ND	ND	0.42	0.11	
11/6/2023	3.9	9.1	51.2	29.4	3.7	1.06	0.38	ND	ND	ND	ND	ND	0.07	
11/7/2023	4.2	13.0	59.0	30.2	4.9	1.24	0.40	ND	ND	ND	ND	ND	ND	
11/8/2023	4.0	13.3	59.3	26.3	4.0	1.29	0.36	ND	ND	ND	ND	0.05	0.04	
11/9/2023	4.5	13.5	75.1	36.4	5.8	1.65	0.44	ND	ND	ND	ND	0.05	0.01	
11/10/2023	5.1	15.0	92.1	49.0	6.0	2.01	0.46	ND	ND	ND	2.99	ND	0.03	
11/11/2023	7.4	18.2	64.0	34.2	11.9	3.60	0.35	0.05	ND	ND	ND	ND	0.05	
11/12/2023	8.2	19.5	82.6	44.0	10.0	4.56	0.29	ND	ND	ND	ND	1.27	0.26	
11/13/2023	5.9	14.9	73.1	37.6	5.9	2.62	0.32	0.1	ND	ND	ND	0.24	0.27	
11/14/2023	4.7	11.8	41.8	34.8	4.1	1.56	0.40	0.03	ND	ND	ND	4.53	0.1	
11/15/2023	3.7	10.9	61.0	28.1	3.1	1.41	0.41	ND	ND	ND	ND	0.7	ND	
11/16/2023	4.0	11.9	53.0	30.9	2.9	1.26	0.32	ND	ND	ND	ND	0.33	0.47	
11/17/2023	3.4	10.6	47.4	24.0	1.8	1.00	0.28	ND	ND	ND	ND	ND	0.55	
11/18/2023	4.1	12.2	38.0	30.8	4.5	1.24	0.40	ND	ND	ND	ND	ND	ND	
11/19/2023	4.5	12.0	56.5	28.6	4.3	1.43	0.52	ND	ND	ND	ND	0.66	0.17	

ANNEXURE-III

Date	Regional Office, Una												
	Regulatory Parameters							Metals in PM10			Proposed New Parameters		
	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	O3 ug/m3	NH3 ug/m3	CO mg/m3				Metals/Elements in PM 2.5		
								In ug/m3					
								Pb (ug/m3)	Ni (ng/m3)	As (ng/m3)	Al	Fe	Ba
11/5/2023	3.1	BDL	57.7	31.3	2.6	3.6	0.8	ND	ND	ND	ND	ND	4.11
11/6/2023	2.3	13.3	67.5	25.0	1.7	4.1	0.9	ND	ND	ND	ND	ND	0.20
11/7/2023	2.7	15.2	67.6	29.2	1.8	4.9	0.9	ND	ND	ND	ND	ND	0.21
11/8/2023	2.7	10.6	73.5	29.2	1.7	2.5	0.8	ND	ND	ND	ND	ND	0.14
11/9/2023	2.3	17.5	71.2	37.5	1.6	7.6	0.8	ND	ND	ND	ND	ND	0.80
11/10/2023	BDL	11.4	20.8	Rainfall	0.8	1.2	0.4	-	-	-	-	-	-
11/11/2023	3.9	21.5	68.8	41.7	3.7	4.8	0.9	ND	ND	ND	ND	ND	ND
11/12/2023	4.0	18.9	180.1	62.5	2.5	4.9	0.8	ND	ND	ND	ND	ND	0.50
11/13/2023	2.3	21.3	75.1	45.8	2.5	2.6	0.8	ND	ND	ND	ND	ND	0.01
11/14/2023	2.5	12.1	78.4	29.2	2.3	7.3	0.7	ND	ND	ND	ND	ND	0.97
11/15/2023	2.1	14.0	65.4	41.7	2.1	8.9	0.7	ND	ND	ND	ND	ND	0.52
11/16/2023	1.8	9.1	61.1	33.3	2.2	6.3	0.7	ND	ND	ND	ND	ND	1.33
11/17/2023	2.7	10.2	91.7	45.8	2.0	4.2	0.8	ND	ND	ND	ND	ND	0.41
11/18/2023	2.4	BDL	75.0	33.3	1.8	4.3	0.6	ND	ND	ND	ND	ND	2.74
11/19/2023	2.6	9.8	82.0	37.5	2.0	3.7	0.7	ND	ND	ND	ND	ND	8.99

ANNEXURE-III

Date	Housing Board, Baddi				MC, Nalagarh					Nehru Park, Manali				
	Regulatory Parameters				Regulatory Parameters					Regulatory Parameters				
	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	CO mg/m3	SO2 (ug/m3)	NOx (ug/m3)	PM10 (ug/m3)	PM 2.5 (ug/m3)	NH3 ug/m3
11/5/2023	2.1	16.3	88.0	29.1	BDL	12.2	64.0	20.8	0.7	BDL	BDL	30.6	8.3	1.64
11/6/2023	2.2	13.1	80.0	37.5	BDL	10.9	63.0	25.0	0.7	BDL	BDL	25.9	8.3	1.75
11/7/2023	BDL	15.3	85.0	29.1	BDL	12.4	66.0	20.8	0.7	BDL	BDL	27.5	8.3	1.85
11/8/2023	2.7	16.5	93.0	33.4	BDL	12.3	78.0	25.0	0.5	BDL	BDL	25.1	7.1	1.63
11/9/2023	2.5	17.3	97.0	37.5	BDL	11.9	82.0	29.2	0.6	BDL	BDL	34.9	12.5	1.94
11/10/2023	0.0	0.0	0.0	0.0	0.0	0.0	Rain	0.0	Rain	0.0	0.0	0.0	0.0	0.00
11/11/2023	BDL	14.5	76.0	29.2	BDL	9.9	64.0	25.0	0.6	BDL	BDL	32.7	15.0	1.84
11/12/2023	2.4	15.1	96.0	33.3	BDL	11.3	85.0	25.0	0.7	BDL	9.9	54.5	16.7	2.78
11/13/2023	2.5	15.8	93.0	33.3	BDL	11.6	82.3	25.0	0.7	BDL	BDL	30.2	12.5	1.94
11/14/2023	2.2	14.6	88.6	37.5	BDL	12.3	78.0	25.0	0.7	2.1	BDL	23.5	14.9	1.81
11/15/2023	2.1	17.3	90.0	33.3	BDL	12.0	80.0	25.0	0.7	2.6	BDL	27.1	14.9	2.08
11/16/2023	2.1	15.0	82.0	33.3	BDL	12.3	73.0	25.0	0.7	BDL	BDL	26.1	8.3	1.75
11/17/2023	BDL	14.2	75.0	33.3	BDL	11.8	66.0	20.8	0.7	2.1	BDL	27.2	8.3	1.92
11/18/2023	2.2	14.0	77.0	33.3	BDL	12.9	65.0	25.0	0.8	2.3	BDL	28.5	8.3	1.75
11/19/2023	2.2	16.8	72.0	29.2	BDL	11.9	60.0	20.8	0.6	2.1	BDL	38.0	10.0	2.11