

**BEFORE THE HON'BLE NATIONAL GREEN
TRIBUNAL, PRINCIPAL BENCH, DELHI**

OA No. 1228/2024

IN THE MATTER OF:

News Item titled "Lancet study links alarming mortality rates to poor air quality 12 strategies to combat country's air pollution crisis" appearing in the Indian Express dated 13.09.2024.

Index

Sr.No.	Particulars of documents	Page
1.	Response/Reply by way of Affidavit on behalf of respondent No. 10 i.e. H.P. State Pollution Control Board.	1-5
2.	Annexure R-10/1, collectively: Copies of air quality guidelines of WHO and National Ambient Air Quality Standards.	6-9
3.	Annexure R-10/2: (Copy of details of AQI & PM ₁₀ values for the period 2008-2009 to 2023-2024 and PM _{2.5} values for the period 2018-2019 to 2023-2024.	10

Dated: 20-11-2024

Place: Shimla

Respondent No. 10


Through Counsel

**BEFORE THE HON'BLE NATIONAL GREEN
TRIBUNAL, PRINCIPAL BENCH, DELHI**

OA No. 1228/2024

IN THE MATTER OF:

News Item titled "Lancet study links alarming mortality rates to poor air quality 12 strategies to combat country's air pollution crisis" appearing in the Indian Express dated 13.09.2024.

**RESPONSE/REPLY BY WAY OF
AFFIDAVIT ON BEHALF OF
RESPONDENT NO. 10 i.e. HP STATE
POLLUTION CONTROL BOARD IN
COMPLIANCE TO HON'BLE
NGT'S ORDER DATED 15.10.2024.**

May it please your lordships:-

Affidavit of Sh. Anil Joshi son of Sh. Ram Datt Joshi, aged 58 years, presently working as Member Secretary, H.P. State Pollution Control Board, Him Parivesh, Phase-III, BCS, New Shimla, Himachal Pradesh.

I, Anil Joshi, the deponent named hereinabove, do hereby solemnly affirm and state as under:-

That the instant 'original application' is registered *suo motu* on the basis of news item titled above appearing in the 'Indian Express' dated 13.09.2024. The news item relate to a recent study published in lancet

ATTESTED
1
OATH COMMISSIONER



Member Secretary,
HP State Pollution Control
Shimla

planetary health, which has highlighted the severe impact of poor air quality on mortality rates in 10 major cities including “Shimla” situated in Himachal Pradesh.

- 2 That the case was listed before this Hon’ble Tribunal on 15.10.2024 on which date, this Hon’ble Tribunal had directed all the respondents including HP State Pollution Control Board (“State Board” for brevity) to file response/reply by way of affidavit.
- 3 That in compliance to aforesaid order dated 15.10.2024, it is submitted that the comparative study (referred in the aforesaid order dated 15.10.2024) is based on compliance of World Health Organization (WHO) norms rather than environmental norms therefore, the issue raised and reported in the news article is not true to the fact that shimla is not meeting the prescribed environmental norms with regard to ambient air quality.
4. The study has linked the mortality rate to the air pollution levels that exceed the norms prescribed under the World Health Organization (WHO) guidelines. The ambient air quality standard of WHO are far more stringent than National Ambient Air Quality Standards (NAAQS) prescribed under the Air (Prevention and Control of Pollution) Act, 1981. The daily PM_{2.5} norms



as per WHO standard is 15 microgram/cubic meter whereas, the norms under National Ambient Air Quality Standards (NAAQS) is 60 microgram/cubic meter. Similarly, the daily PM₁₀ norms as per WHO standard is 45 microgram/cubic meter whereas, the norms under NAAQS is 100 microgram/cubic meter. (Copies of the prescribed standard are attached as **Annexure R-10/1, collectively**). As far as Shimla city is concerned, the State Board is monitoring the Air Quality Index (AQI) on regular basis and the AQI values are well within the prescribed limits as per the National Ambient Air Quality Standards. It is pertinent to mention here that the State Board has started monitoring of PM_{2.5} parameter w.e.f. 2018 onwards. (The copies of AQI & PM₁₀ values for the period 2008-2009 to 2023-2024 and PM_{2.5} values for the period 2018-2019 to 2023-2024 are attached as **Annexure R-10/2**).

5. That in view of the aforesaid data analysis, it is clear that AQI values are within the prescribed limits in Shimla city for the time period 2008-2019. Further, it is worthwhile to mention here that the air pollution/AQI cannot be termed as the sole factor attributed for respiratory, pulmonary diseases and mortality rate. The other factors like meteorological factors i.e. altitude, temperature and humidity,


ATTESTED

OATH COMMISSIONER


Member Secretary,
HP State Pollution Control
Shimla

demographic factors (age), socio-economic factors (i.e. nutritional factors and life style) and vulnerable health conditions of individuals also contribute significantly to the respiratory problems.

6. That it is further submitted that the annual average trend of AQI of the city indicates improvements in the air quality of the city which is attributed to strict enforcement of environmental regulations and several measures taken over the years, such as use of clean fuel like LPG for cooking, electricity/solar power for space heating and promoting e-vehicles with an objective to reduce air emission and promote environmental friendly transport. All these factors have contributed significantly to the improvement in air quality of Shimla city.
7. That the submissions made above may kindly be taken on record and instant OA may kindly be disposed of qua the respondent Board. Any other order deemed fit by this Hon'ble Tribunal may kindly be passed in public interest.

 **DEPONENT**
Member Secretary,
HP State Pollution Control
Shimla

VERIFICATION

I, the deponent named hereinabove, do hereby solemnly affirm and state that the contents of this

ATTESTED
OATH COMMISSIONER

affidavit are true and correct to the best of my knowledge derived from the official records and nothing material has been concealed therefrom.

Verified at Shimla on this 20th day of November, 2024.

Identified by

Dated: 20/11/24
Place: Shimla

[Signature] DEPONENT
Member Secretary,
HP State Pollution Control
Shimla

ATTESTED

OATH COMMISSIONER

Certified that the aboveverdict was declared before me on solemn affirmation on this 20th day of Nov at Shimla in the District of Shimla by [Signature] who was identified by [Signature] who is person [Signature] the contents of the [Signature] been read over & explained to [Signature] vernacular who admitted them to be correct and true at the time of making thereof

and Cuttings and Corrections duly attested by me.

[Signature] 20-11-24
Oath Commissioner

Oath Commissioner 20-11-24
HP High Court, Shimla



World Health Organization (WHO) air quality guidelines (AQGs) and estimated reference levels (RLs)

World Health Organization (WHO) air quality guidelines (AQGs) and estimated reference levels (RLs) ^(a)

Pollutant	Averaging period	AQG	RL	Comments
PM10	1 day	45µg/m ³		99th percentile (3-4 exceedance days per year). Updated 2021 guideline
	Calendar year	15µg/m ³		Updated 2021 guideline
PM2.5	1 day	15µg/m ³		99th percentile (3-4 exceedance days per year). Updated 2021 guideline
	Calendar year	5µg/m ³		Updated 2021 guideline
O ₃	Maximum daily 8-hour mean	100µg/m ³		99th percentile (3-4 exceedance days per year). New 2021 guideline
	Peak season ^(b)	60µg/m ³		New 2021 guideline
NO ₂	1 hour	200µg/m ³		99th percentile (3-4 exceedance days per year). New 2021 guideline
	1 day	25µg/m ³		
BaP	Calendar year	10µg/m ³		Updated 2021 guideline
	Calendar year		0.12ng/m ³	
SO ₂	10 minutes	500µg/m ³		99th percentile (3-4 exceedance days per year). New 2021 guideline
	1 day	40µg/m ³		
CO	1 hour	30mg/m ³		99th percentile (3-4 exceedance days per year). New 2021 guideline
	Maximum daily 8-hour mean	10mg/m ³		
	1 day	4mg/m ³		
C ₆ H ₆	Calendar year		1.7µg/m ³	
Pb	Calendar year	0.5µg/m ³		
As	Calendar year		6.6ng/m ³	
Cd	Calendar year	5ng/m ³ ^(c)		
Ni	Calendar year		25ng/m ³	

Notes:

(a) As WHO has not set an AQG for BaP, C₆H₆, As and Ni, the RL was estimated assuming an acceptable risk of additional lifetime cancer risk of approximately 1 in 100 000.

(b) Average of daily maximum 8-hour mean concentration in the six consecutive months with the highest six-month running average O₃ concentration.

(c) AQG set to prevent any further increase of Cd in agricultural soil, likely to increase the dietary intake of future generations.

Sources: WHO (2000, 2006, 2021).

**NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION**

New Delhi, the 18th November, 2009

No.B-29016/20/90/PCI-L—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 super session 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, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and Other Area	Ecologically sensitive area (notified by Central Govt.)	
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20	<ul style="list-style-type: none"> Improved West and Geake Ultraviolet fluorescence
		24 hours**	80	80	
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	30	<ul style="list-style-type: none"> Modified Jacob & Hochheiser (Na-Arsenite) * Chemiluminescence
		24 hours**	80	80	
3	Particulate Matter (size less than 10 µm) or PM ₁₀ µg/m ³	Annual*	60	60	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	100	100	
4	Particulate Matter (size less than 2.5 microns) or PM _{2.5} µg/m ³	Annual*	40	40	<ul style="list-style-type: none"> Gravimetric TOEM Beta attenuation
		24 hours**	60	60	
5	Ozone (O ₃) µg/m ³	8 hours **	100	100	<ul style="list-style-type: none"> UV photometric Chemiluminescence Chemical method
		1 hour **	180	180	
6	Lead (Pb) µg/m ³	Annual*	0.5	0.5	<ul style="list-style-type: none"> ASS / ICP method after sampling on EPM 2000 or equivalent filter paper ED - XRF using Teflon filter
		24 hours**	1.0	1.0	

(1)	(2)	(3)	(4)	(5)	(6)
7	Carbon Monoxide (CO) mg/m ³	8 hours**	2	2	Non Dispersive Infra RED (NDIR) Spectroscopy
		1 hour**	4	4	
8	Ammonia (NH ₃) μg/m ³	Annual*	100	100	<ul style="list-style-type: none"> • Chemiluminescence • Indophenol blue method
		24 hours**	400	400	
9	Benzene (C ₆ H ₆) μg/m ³	Annual*	5	5	<ul style="list-style-type: none"> • Gas chromatography based continuous analyser • Adsorption and desorption followed by GC analysis
10	Benzo (a) Pyrene (BaP) – particulate phase only ng/m ³	Annual*	1	1	Solvent extraction followed by HPLC / GC analysis
11	Arsenic (As) ng/m ³	Annual*	6	6	AAS / ICP method after sampling on EPM 2000 or equivalent filter paper
12	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 investigation.

PM ₁₀ , PM _{2.5} & AQI OF NAMP STATION SHIMLA DURING THE PERIOD 2008-09 TO 2023-24																
Parameter	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PM ₁₀	55.8	64.6	57.0	54.4	52.5	45.5	51.5	54.7	51.9	56.6	71.9	54.0	45.0	50.7	42.0	36.4
PM _{2.5}	-	-	-	-	-	-	-	-	-	-	31.7	21.4	19.8	20.6	17.4	15.6
AQI	56	65	57	54	53	46	52	55	52	57	72	54	45	51	42	36