Radhasoami Dayal Ki Daya Radhasoami Sahai

AIR QUALITY MONITORING @ 40 FEET HEIGHT – Report Date: 19.1.2022 (BASED ON US-EPA AQI STANDARDS AND THE DAYALBAGH AQI COLOUR CODE)

Permissible Limits (24 Hour Mean): PM₁₀ = 150; PM_{2.5} = 35, all units are in μg/m³ Sampling Duration = 24 hrs (9:00 AM to 9:00 AM)

	Date	DAYALBAGH									SANJAY PLACE							
	Today:	(TIME WEIGHTED AVERAGE DATA)								Today:	(ARITHMETIC MEAN DATA)							
	Touay.	AQI		Meteorological Parameters						Today.	AQI		Meteorological Parameters					
	Jan 19 -18 Yesterday:	³ PM _{2.5}	PM10	RH %	WS m/s	WD	T °C	SR W/m ²	RF	Jan 19 -18 Yesterday: Jan 18 - 17		PM ₁₀	RH %	WS m/s	WD	Т	SR	RF
											PM2.5					°a	XX (2	
	Jan 18 - 17								mm							С	W/m²	mm
4 / 97	Today	155	110	91	2.1	WNW	8	14	0	Today	162	130	89	0.9	SSW	6.2	30	0
	Yesterday	165	141	87	1.0	W	9	19	0									
3 / 34	Today	170	124	95	2.1	WNW	7.6	17	0									
	Yesterday	167	115	91	1.0	W	9	21	0								1	
Science Faculty	Today	185	108	96	2.3	E	7.5	17	0	Yesterday	160	134	85	1.3	WSW	7.3	33	0
	Yesterday	186	100	92	2.1	ENE	9	22	0									

Views of AQI Research Group: The AQI has more or less remained same as yesterday for Dayalbagh and Sanjay Place with PM10.0 reducing at Vidyut Nagar more significantly. Relative Humidity continued to be very high at Dayalbagh vis-à-vis Sanjay Place. Drop in temperature impacted adversely while increase of Wind Speed would have helped in dispersal.

Remarks of Revered Chairman-ACE:



Wednesday, 19 January 2022, 04:42 PM

Good -G



Unhealthy for All-



Hazardous for All- HZ

Hazardous for All-HZ

NOTE: 1 A continuous study conducted as part of Dayalbagh Sigma Six Qualities and Values Model implementation.

Moderate- M

2 DEI is using United States Environmental Protection Agency (USEPA) methodology and online calculators to calculate AQI. For fair comparison with UPPCB Sanjay Place Weather Station readings,

their PM_{2.5} concentration readings are fed in USEPA online calculator for AQI calculation 3 Formula for AQI calculation for a Pollutant -

$$I = \frac{I_{\rm high} - I_{\rm low}}{C_{\rm high} - C_{\rm low}} * (C - C_{\rm low}) + I_{\rm low}$$

where, I = Air Quality Index, C=Pollutant Concentration (PM2.5), Clow=Concentration Breakpoint <C, Chigh=Concentration Breakpoint <C, Ilow=Index Break point corresponding to Clow, Ihigh=Index Breakpoint corresponding to Chigh

Minutes of Air Quality Group Meeting held on 18.01.2022

This has reference to AQI Report of 17th Jan, 2022, wherein, the following Remarks of Most Revered Gracious Huzur were received:

"Appropriate Research may be conducted under the Guidance of the Expert Committee for Agroecology including invited specialists for participation in Video-conferencing mode to understand relatively large variation in respect of PM2.5 at Science Faculty and Prem Nagar sites while Vidyut Nagar location seems to be marginally affected."

Accordingly, an online video-conference was held on 18.01.2022 at 7:30 pm, to discuss the probable causes for the observations made by Most Revered Gracious Huzur.

Following Expert Members of the Agroecology Committee attended:

- 1. Prof. S. S. Bhojwani, Chairman, Scientific Advisory Committee, Department of Agroecology, Dayalbagh
- 2. Dr. K Usha, Principal Scientist, IARI, New Delhi
- 3. Mr. Puneet Chowdhry, General Manager, Department of Agroecology, Dayalbagh
- 4. Prof. GP Satsangi, Former Head, Department of Botany, DEI

Following were the Invited Specialists:

- 1. Prof. Umesh Chandra Kulshrestha, Atmospheric Scientist & Former Dean, School of Environmental Sciences, JNU, New Delhi.
- 2. Prof. Ajay Taneja, Atmospheric Scientist & Head, Institute of Basic Sciences, Khandari, Agra.
- 3. Prof. S. S. Srivastava, Chairman, SNC, Dayalbagh
- 4. Mr. Guru Prasad, Engineer, Construction Department, Dayalbagh

Following members of Air Quality Research Group attended the Meeting:

- 1. Prof. Satya Prakash, In-charge, Air Quality Research Group
- 2. Prof. Sahab Dass, Head, Department of Chemistry, DEI
- 3. Prof. K. Maharaj Kumari, Retired Professor, Department of Chemistry, DEI
- 4. Dr. Anita Lakhani, Associate Professor, Department of Chemistry, DEI
- 5. Dr. Ranjit Kumar, Assistant Professor, Department of Chemistry, DEI
- 6. Dr. Aparna Satsangi, Assistant Professor, Department of Chemistry, DEI
- 7. Mr. Vimal Prakash, Member, Air Quality Research Group, Dayalbagh

The meeting started with the welcome of the Expert Members of Department of Agroecology, Dayalbagh and the Invited Specialists.

It was discussed and agreed upon that the marginal increase in the PM_{2.5} AQI at Vidyut Nagar (from 164 to 167) compared to the relatively large variation at Prem Nagar (from 157 to 173) and at Science Faculty (from 168 to 190) was primarily because of lower Relative Humidity at Vidyut Nagar (85%) vis-à-vis Prem Nagar (87%) and Science Faculty (89%).

- Prof. Umesh Chandra Kulshrestha, JNU, opined that DEI should consider mentioning not just the average temperature in the AQI Report but also state the Minimum and Maximum temperature. At lower temperatures and high relative humidity, several atmospheric reactions leading to the formation of secondary aerosol enhance the particulate concentrations, specifically the finer fraction. Even measuring equipments malfunction at high Relative Humidity. The Air Flow Rate (AFR) decreases at high Relative Humidity resulting in change of volume of air sampled that may giving higher pollutant readings. The department will work on this aspect with the equipment vendor.
- Prof. S S Bhojwani and Mr. Puneet Chowdhary pointed out Vidyut Nagar is relatively away from the Dayalbagh Road and thus little less impacted due to the fluctuations of activity and traffic vis-à-vis Prem Nagar. The vehicular traffic (parking of over 500 2 and 4 wheelers put together) in vicinity of Science Faculty can impact readings directly based on the activity levels.
- PB Gur Prasad and Prof. Ajay Taneja remarked that Point-Source activities need to be identified (combustion for space heating to combat the cold weather/construction /painting activity/sweet shops). The number of large restaurants on Dayalbagh road and near Prem Nagar have gone from 1 to 3. With many more as one moves northwards towards DEI. Any fluctuation in activity levels at these restaurants can directly impact Prem Nagar readings.
- The impact of water misting at 10 feet level at Dayalbagh and DEI may be causing scavenging of coarse particles (PM₁₀) but favouring gas to particle conversion and secondary aerosol formation thus increasing the PM2.5 readings.

Meeting ended with a vote of thanks.

Dated: Jan 19th, 2022/

Appropriate research at multiple levels may be continued to be pursued in DEI and associated institutions to gain better and better perspective with a view to ameliorating conditions for all living-beings.

Wednesday, 19-01-2022, 05:04 PM Received, Wednesday, 19-01-2022, 04:08 PM