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April 11, 2025

Board Secretary-Treasurer, Karen Thorne
Louisville Metro Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, Kentucky 40203

**Re: Louisville Metro Air Pollution Control District 2023 Ozone
Wildfire Exceptional Event Demonstration Final Report**

Dear Ms. Thorne:

The Midwest Ozone Group¹ (“MOG”) is pleased to provide comments² in support of these proposed demonstrations.

While the Clean Air Act (the “Act”) requires States to meet certain air quality standards, the Act also recognizes that exceptional events, including wildfires and prescribed burns, may sometimes prevent that from happening. Exceptional events

¹ The membership of the Midwest Ozone Group includes: Ameren, American Electric Power, American Forest & Paper Association, American Iron and Steel Institute, American Wood Council, Appalachian Region Independent Power Producers Association, Associated Electric Cooperative, Berkshire Hathaway Energy, Big Rivers Electric Corp., Buckeye Power, Inc., Citizens Energy Group, City Water, Light & Power (Springfield IL), Cleveland-Cliffs Inc., Council of Industrial Boiler Owners, Duke Energy Corp., East Kentucky Power Cooperative, ExxonMobil, FirstEnergy Corp., Indiana Energy Association, Indiana-Kentucky Electric Corporation, Indiana Municipal Power Agency, Indiana Utility Group, Hoosier Energy REC, inc., LGE/ KU, Marathon Petroleum Company, National Lime Association, North American Stainless, Nucor Corporation, Ohio Utility Group, Ohio Valley Electric Corporation, Olympus Power, Steel Manufacturers Association, and Wabash Valley Power Alliance.

² These comments were prepared with the technical assistance of Alpine Geophysics, LLC.

can cause air quality monitoring data to exceed permissible concentrations of a pollutant, also called an exceedance. When that happens, the Act directs the Administrator of the United States Environmental Protection Agency (USEPA) to exclude that data from further consideration if the state demonstrates to USEPA's satisfaction that the event caused the exceedance.

On March 19, 2025, the Louisville Metro Air Pollution Control District (LAPCD) issued a public notice seeking comments on a request for exclusion of certain 2023 ozone monitoring data due to wildfire smoke impacts from Canadian wildfires measured at the Cannons Lane (AQS #21-111-0067) ambient air quality monitor. The deadline for the submittal of comments is April 18, 2025.

The proposed exceptional events demonstration details the ozone episode occurring over nine days in 2023 at the Cannons Lane monitor (AQS#21-111-0067) in the Louisville, KY, Metropolitan Statistical Area (LMSA), noting that Canadian wildfires in 2023 impacted the Cannons Lane monitor in the LMSA and that, if any six of the nine event days listed are concurred by EPA, the Cannons Lane monitor 2021-2023 design value would attain the 2015 ozone NAAQS. All nine event days are presented in the proposed exceptional events demonstration for EPA consideration “due to the unprecedented scope of the wildfire events, the scope of newly available screening models, and the strength of other evidentiary analyses.” Significantly, if EPA approves the proposed exceptional events demonstration and excludes the data, the Cannons Lane 2021-2023 design value excluding exceptional events would attain the NAAQS.

The following comments are offered on behalf of MOG in support of this proposed exceptional events demonstration.

MOG is an affiliation of companies and associations that draws upon its collective resources to seek solutions to the development of legally and technically sound air quality programs that may impact on their facilities, their employees, their communities, their contractors, and the consumers of their products. MOG's primary efforts are to work with policy makers in evaluating air quality policies by encouraging the use of sound science. MOG has been actively engaged in a variety of issues and initiatives related to the development and implementation of air quality policy, including the development of transport rules (including exceptional events demonstrations, implementation of NAAQS standards, nonattainment designations, petitions under Sections 126, 176A and 184(c) of the Clean Air Act (“CAA”), NAAQS implementation guidance, the development of Good Neighbor State Implementation Plans (“SIPs”), the development of greenhouse gas and Mercury and Air Toxics Standards Rules and related regional haze issues. MOG Members

and Participants own and operate numerous stationary sources that are affected by air quality requirements including the ozone NAAQS.

By way of background, when amending the Clean Air Act in 2005, Congress intended to provide regulatory relief for NAAQS nonattainment resulting from exceptional events negatively affecting air quality that were outside of a state's control. That concern led to enactment of provisions specifically establishing the process by which USEPA could exclude air quality monitoring data directly related to an exceptional event. *See* 42. U.S.C. § 7619. Subsequently, USEPA promulgated the exceptional events rule. 40 C.F.R. § 50.14. Under the exceptional events rule, USEPA excludes “any data of concentration of a pollutant above the NAAQS (exceedances) if the air quality was influenced by exceptional events.” *Bahr v. Regan*, 6 F.4th 1059, 1066 (9th Cir. 2021) (cleaned up).

A state requesting data exclusion under the exceptional events rule must demonstrate “to the Administrator's satisfaction that such event caused a specific air pollution concentration at a particular air quality monitoring location.” 40 C.F.R. § 50.14(a)(1)(ii). That demonstration must include certain regulatory required information:

- (A) A narrative conceptual model that described the event(s) causing the exceedance or violation and a discussion of how emissions from the event(s) led to the exceedance or violation at the affected monitor(s);
- (B) A demonstration that the event affected air quality in such a way that there exists a clear causal relationship between the specific event and the monitored exceedance or violation;
- (C) Analyses comparing the claimed event-influenced concentration(s) to concentrations at the same monitoring site at other times to support the requirement at paragraph (c)(3)(iv)(B) of this section. The Administrator shall not require a State to prove a specific percentile point in the distribution of data;
- (D) A demonstration that the event was both not reasonably controllable and not reasonably preventable; and
- (E) A demonstration that the event was a human activity that is unlikely to recur at a particular location or was a natural event.

40 C.F.R. § 50.14(c)(3)(iv).

A state must also comply with pre-request requirements, which include notifying USEPA of the intent to request exclusion, flagging data to be excluded, engaging in public comments, and implementing mitigation measures. See 40 C.F.R. § 50.14(c)(2)(i); 40 C.F.R. § 50.14(c)(3)(v); 40 C.F.R. § 51.930. In short, there are three core statutory elements: (1) a clear causal relationship; (2) a showing that the event was not controllable, and (3) a showing that the event was human activity unlikely to recur a particular location or was a natural event.

Depending on the circumstances of a particular exceptional event, a particular tier of evidence is required to provide a compelling case to USEPA to exclude data under the Exceptional Events Rule. In instances where a state provides sufficient evidence to showcase that a given event is indeed an irregularity, USEPA will make a concurring determination and issue an exclusion of that specific event from the dataset. 40 C.F.R. 50.14(c)(2)(ii).

USEPA has recognized that particular events are exceptional and that states may request to exclude them from the dataset, given that a sufficient evidentiary standard is met. *Id*; see generally, 81 Fed. Reg. 68216. USEPA's guidance on wildfire events that may influence ozone concentrations³ outlines a tiered approach for addressing the clear causal relationship element within a wildfire/ozone demonstration as follows:

“Tier 1 clear causal analyses should be used for wildfire events that cause clear O₃ impacts in areas or during times of year that typically experience lower O₃ concentrations, and are thus simpler and less resource intensive than analyses for other events. Tier 2 clear causal analyses are likely appropriate when the impacts of the wildfire on O₃ levels are less clear and require more supportive documentation than Tier 1 analyses. Tier 3 clear causal analyses should be used for events in which the relationship between the wildfire and the O₃ exceedance or violation is more complicated than the relationship in a Tier 2 analysis, and thus would require more supportive documentation than Tier 2 analyses.” *Id* at With respect to O₃, USEPA Wildfire Ozone Guidance identifies a tiered strategy with three tiers of analyses for the clear causal relationship criterion, which acknowledges that some

³ Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations, Final, September 2016 (<https://www.epa.gov/system/files/documents/2023-12/guidance-on-the-preparation-of-ee-wf-ozone.pdf>)

fire events can be extreme or otherwise clearly stand out from normally occurring O₃ concentrations and, thus, may necessitate less evidence for the clear causal relationship analysis.” *Id* at 4

EPA has also recognized that “[w]ildland fire smoke impacts on ozone (O₃) are complex and likely dependent on many competing factors in the plume’s physical and chemical environment, both near the fire and as these factors change as the plume moves downwind.”⁴

MOG agrees that the proposed demonstration shows that the events that affected the Cannons Lane monitor are properly analyzed as Tier 1 (June 28, 2023) and Tier 3 (remaining eight days in 2023) events in accordance with the USEPA tiering guidance. MOG also agrees that the demonstration properly shows that the weight of evidence supports an exceptional event determination for all nine days.

MOG fully supports the LAPCD request that the USEPA Administrator exclude the ambient ozone concentrations measured at the Cannons Lane monitor site during all these documented events from calculations of annual ozone design values and from other regulatory determinations.

As set forth in its proposed demonstrations, LAPCD has shown that the documented events caused the ozone exceedances at the Cannons Lane monitor. LAPCD correctly notes that exclusion of the data on the relevant dates would result in attainment of the 2024 revised primary annual ozone NAAQS at this monitor.

The proposed demonstration addresses such remaining factors as a narrative conceptual model describing the events as not reasonably controllable and not caused by human activity and satisfy requirements related to notification of the public of the events and participation of the public in the submission of these requests.

Supporting clear causal relationship analyses in LAPCD’s demonstration include (1) comparison of hourly ozone concentrations compared to 5th and 95th percentile ranges for the Cannons Lane monitor over the past five years, showing atypical concentrations throughout the day on event days presented, (2) historical average and atypical diurnal profile concentrations of PM_{2.5} and carbon monoxide (CO) for the event days, (3) satellite imagery displaying both source wildfires in Canada and their associated smoke plumes, (4) EPA generated AirNow PM_{2.5} and ozone air quality index (AQI) maps of excessively high ozone and PM_{2.5}

⁴ Wildland Fire Activity and Modeled Impacts on O₃ and PM_{2.5}, EPA-454/R-22-002, March 2022

concentrations during presented event days, (5) Hazard Mapping Service (HMS) fire and smoke plume maps indicating the movement of Canadian wildfire emissions over the LMSA, (6) BlueSky Canada Smoke Forecasting System plots of Canadian fires and modeled near-surface (10 meters) PM2.5 for 5 days prior to and including the exceedance days in the demonstration, (7) HYSPLIT back trajectories that end at the monitor for each hour of the exceptional event days which show intersection between the observed air packets and wildfire smoke plumes, (8) a Generalized Additive Model (GAM) analysis study that captured the complex relationship between wildfire smoke and ozone pollution across various regions and conditions and indicated wildfire influence in the LMSA during the documented episode days, (9) a matching day ozone increment analysis that predicts 8-hour ozone concentrations that would have occurred at the Cannons Lane monitor in the absence of wildfire smoke influence, and (10) an EMBER photochemical grid model estimated fire contributions to ozone analysis which corroborated the findings in the GAM and matching day analyses.

The monitor and episode days that are carefully addressed in the proposed LAPCD demonstration are far from the only ones that have influenced air quality during those time frames. Many ozone monitors in the same area also observed 8-hour average ozone concentrations at significantly elevated levels on the same exclusion dates, as well as on days around these dates.

To support this argument, LAPCD references Indiana Department of Environmental Management's (IDEM) exceptional event demonstration⁵ on February 6, 2025, for the Jeffersonville-Bates-Bowyer Avenue PM2.5 monitor. In 2023, this monitor was heavily impacted by Canadian wildfire smoke like Cannons Lane ozone concentrations. The monitors are both located in the LMSA and are approximately 10 km from each other with multiple dates included in IDEM's PM2.5 demonstration that overlap with the nine event days being evaluated in this ozone demonstration.

IDEM also submitted three other regionally proximal PM2.5 exceptional events demonstrations for dates overlapping those in this ozone demonstration. Exceptional events demonstrations addressing wildfire impact in Evansville⁶, South

⁵ <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:67376578-bb6b-4e2f-abef-9426d1072ed2>

⁶ <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:2c06ab73-d0b3-4c93-a17f-4ada09806fef>

Bend⁷, and Terre Haute⁸, Indiana support similar impacts of enhanced ozone exceedances during the nine days outlined in this demonstration.

In addition to IDEM's PM2.5 exception events demonstrations, multiple other states have submitted ozone exceptional events demonstrations for June 2, 2023, including Pennsylvania⁹, and New Jersey¹⁰ and they attributed the June 2, 2023, wildfire ozone impacts to Western Canadian wildfires as well as wildfires in Nova Scotia. Michigan¹¹ submitted a PM2.5 exceptional events demonstration for July 25-26, 2023, and identified the wildfires as originating to the northwest of their region from Canada which again corroborates the analysis in this ozone exceptional events demonstration.

These states are north of the LMSA but compared to the distance of the Western Canadian wildfires (approximately 3,000 km to the northwest) they are relatively close. Independent demonstrations for eight of the nine event days analyzed in this ozone demonstration corroborate the finding that wildfires caused the monitored exceedances on those days and corroborate the location of the wildfires as being in Quebec or Western Canada. Therefore, exceptional events demonstrations submitted by other agencies provide additional weight of evidence supporting this ozone demonstration.

As has been noted, additional days, even if not currently "regulatorily significant," may in the future be relevant and significant not only to Louisville and surrounding states but also to other states. USEPA should consider allowing these proposed demonstrations to stand for those additional monitors and days, as needed.

MOG appreciates this opportunity to offer comments in support of the proposed LAPCD exceptional events demonstrations for the exceedances of the revised 2024 Annual Ozone NAAQS at the Cannons Lane monitor site due to these

⁷<https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:7e0d60ef-b691-4506-a14f-cf4d062da403>

⁸<https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:b30ca4e8-5a53-435a-b015-4d19c26a27d5>

⁹https://www.midwestozonegroup.com/_files/ugd/7ec07f_d4f7c5ca295f44f1b35f39b40493a997.pdf

¹⁰https://www.midwestozonegroup.com/_files/ugd/7ec07f_990e5ff7a31d461c8ec5984c5ea18761.pdf

¹¹<https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/AQD/State-Implementation-Plan/Notices-and-Activities/public-comment-period-pm25-exceptional-event.pdf>

well documented exceptional events. Congress has made it clear that data of the nature described in this proposed demonstration cannot and should not be used to implement a National Ambient Air Quality Standard and other matters of regulatory significance.

Very truly yours,

A handwritten signature in blue ink that reads "Edward L. Kropp". The signature is written in a cursive style with a prominent initial "E".

Edward L. Kropp
Legal Counsel
Midwest Ozone Group