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Reyna Knight
Ohio Environmental Protection Agency, DAPC
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049
DAPC-Comments@epa.ohio.gov

Re: Exceptional Events Demonstration for 2023 Wildfire-Related Ozone Episodes in Cuyahoga County and Lake County

Ms. Knight:

The Midwest Ozone Group[1] ("MOG") is pleased to offer these comments[2] regarding the Ohio Environmental Protection Agency (OEPA) notice seeking comments on a draft Exceptional Events Demonstration for 2023 Wildfire-Related Ozone Episodes in Cuyahoga County and Lake County. The deadline for the submittal of comments is December 4, 2025.

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, NAAQS standards, attainment/nonattainment designations, petitions under Sections 126, 176A and 184(c) of the Clean Air Act ("CAA"), NAAQS implementation guidance, the

[1] The members of the Midwest Ozone Group include: 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., 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, Hoosier Energy REC, Inc., Indiana Energy Association, Indiana-Kentucky Electric Corporation, Indiana Municipal Power Agency, LGE/ KU, Marathon Petroleum Company, Monongahela Power 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.

development of Good Neighbor State Implementation Plans, exceptional events and 179B demonstrations, and related regional haze and climate change issues.

I. Regulatory 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 U.S. Environmental Protection Agency ("U.S. EPA") could exclude air quality monitoring data directly related to an exceptional event. *See* 42. U.S.C. § 7619. Subsequently, U.S. EPA promulgated the exceptional events rule. 40 C.F.R. § 50.14.

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 the following:

> (A) A narrative conceptual model that describes 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 CFR 50.14(c)(3)(iv).

The requesting state must also comply with pre-request requirements, which include notifying U.S. EPA 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 U.S. EPA 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, U.S. EPA 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).

U.S. EPA 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. 68,216. U.S. EPA's guidance on wildfire events that may influence ozone concentrations 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 O_3 impacts in areas or during times of year that typically experience lower O_3 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 O_3 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 O_3 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.

U.S. EPA, *Guidance on the Preparation of Exceptional Events Demonstrations for Wildfire Events that May Influence Ozone Concentrations* (September 2016) at 4.

II. Ohio Exceptional Event Demonstration

The proposed exceptional events demonstration shows that the ozone episodes impacting Cuyahoga and Lake counties on June 1 and June 2, 2023, were driven by plumes of smoke and ozone precursors from wildfires in Canada traveling to and impacting the ambient air quality at the District 6 (39-035-0034), Eastlake (39-085-0007), GT Craig NCore PAMS (39-035-0060), and Painesville (39-085-0007) monitoring sites. The exceptional events demonstration also establishes that the ozone episode impacting Cuyahoga County on June 29, 2023, was similarly driven by plumes of smoke and ozone precursors from wildfires in Canada traveling to and impacting ambient air quality at the District 6 and GT Craig NCore PAMS sites.

As set forth in its proposed demonstrations, OEPA has shown that the documented events caused the ozone exceedances at the District 6 (39-035-0034), Eastlake (39-085-0007), GT Craig NCore PAMS (39-035-0060), and Painesville (39-085-0007) monitoring sites. OEPA correctly notes that exclusion of monitored ozone data from these dates for the District 6 and Eastlake sites would result in the 2023-2025 8-hour ozone design values, currently at 71 ppb for both sites, being recalculated as 70 ppb for both sites, representing attainment of the 2015 8-hour ozone National Ambient Air Quality Standard (NAAQS). As a result of this monitored ozone data exclusion, all active ozone monitoring sites within the Cleveland, Ohio 2015 Ozone Nonattainment Area would have valid 2023-2025 8-hour ozone design values that attain the 2015 ozone NAAQS, allowing

for a determination that this nonattainment area has attained the relevant NAAQS by the specified deadline, proving the regulatory significance of these exceptional events.

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.

The demonstration includes a myriad of analysis that support a clear causal relationship:

(1) comparison of hourly ozone concentrations compared to 99th percentile range for all of the subject monitors over the past five years, showing atypical concentrations throughout the day on event days presented;

(2) historical average and atypical diurnal profile concentrations of PM2.5, CO, and NO2 for the month of June, 2023;

(3) satellite imagery displaying wildfires in Canada and their associated smoke plumes;

(4) EPA generated AirNow data showing excessively high ozone and PM2.5 concentrations during presented event days;

(5) Hazard Mapping Service ("HMS") fire and smoke plume maps indicating the movement of Canadian wildfire emissions over the US;

(6) HYSPLIT back trajectories that show intersection between the observed air packets and wildfire smoke plumes;

(7) results and residual estimates of wildfire-related MDA8 ozone concentration impacts from the generalized additive model;

(8) results and residual estimates of wildfire-related MDA8 ozone concentration impacts from U.S. EPA's Meteorology-Adjusted Ozone Trends dataset, and

(9) fire impact estimates of wildfire-related MDA8 ozone concentration impacts from U.S. EPA's Expedited Modeling of Burn Events Results dataset tool.

The monitor and episode days that are carefully addressed in the proposed OEPA 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.

Air quality data and maps demonstrate that air quality during these identified episodes had significant impact on multiple other monitors in the Midwest and northeastern US. Figure 1 provides ozone air quality index and HMS Smoke Analysis plots from the June 1, 2, and 29, 2023, episodes that illustrate that multiple monitors in the region are also likely to have Tier 1 threshold exceedances of current or future regulatory significance.

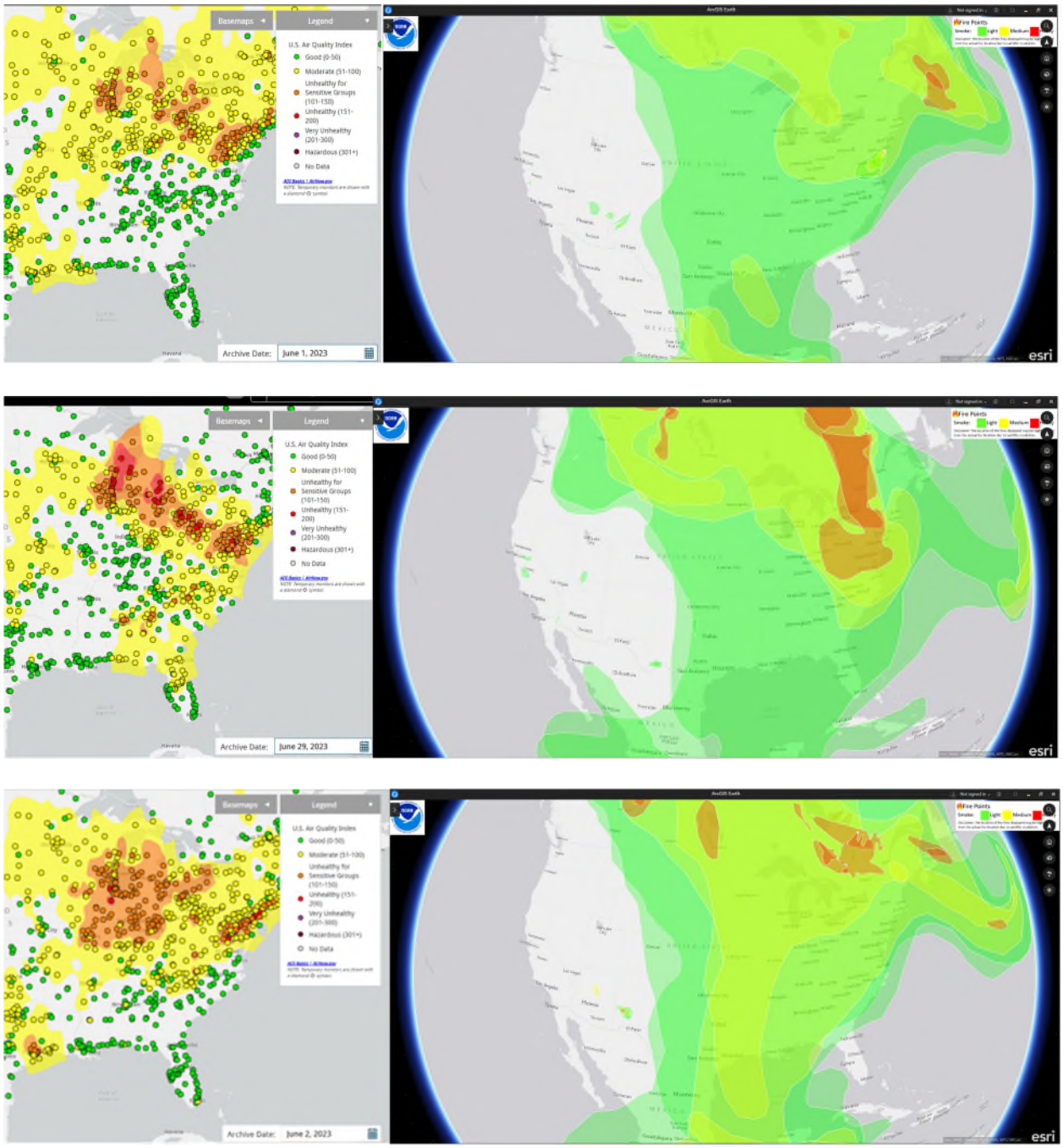

Figure 1. Ozone AQI (left) and HMS Smoke (right) plots, June 1 (top), June 2 (middle), and June 29 (bottom), 2023.

Multiple states in addition to Ohio have submitted ozone exceptional events demonstrations for the June 2023 period 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. Therefore, exceptional events demonstrations submitted by other agencies provide additional weight of evidence supporting this ozone exceptional events demonstration.

While it is clear that approval of the exceptional events demonstration contained within the OEPA demonstration would be enough to bring the area into attainment with the 2025 Ozone NAAQS, MOG urges OEPA to follow-up on this demonstration by preparing similar exceptional events demonstrations for additional days. This action would not only improve the design values in the area covered by the current demonstration but would also likely improve the design values in other areas in this state. In doing so, OEPA would assure that air quality monitoring data affected by exceptional events would be removed from future consideration.

III. Conclusion

For the reasons set forth above, MOG urges OEPA to finalize this demonstration as a first step in addressing exceptional events. In addition, MOG urges U.S. Environmental Protection Agency to concur with this demonstration.

Sincerely,

Edward "Skipp" Kropp
Counsel for the Midwest Ozone Group