OZONE TRANSPORT COMMISSION

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February 5, 2020

Ms. Carolyn Snyder, Division Director
Climate Protection Partnerships Division
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW, 6202A
Washington, DC 20460

VIA EMAIL

RE: Support for a reduced-form ozone analysis option in COBRA

Dear Ms. Snyder:

I write on behalf of the OTC Modeling Committee to support expansion of a tool developed by the Environmental Protection Agency (EPA) and Abt Associates, the CO-Benefits Risk Assessment (COBRA) Health Impacts Screening and Mapping Tool. Using a reduced-form model, COBRA currently allows for a quick evaluation of the associated health and economic benefits from control programs reducing emissions contributing to primary and secondary fine particulate matter ($PM_{2.5}$) in the atmosphere.

Congress established the Ozone Transport Commission (OTC) in the 1990 Clean Air Act Amendments to develop and implement regional ozone reduction strategies, and is composed of twelve states and the District of Columbia. The OTC's collaborative efforts over the last 29 years have resulted in clear, long-lasting improvements in ozone levels, benefiting residents in all of our member jurisdictions. The OTC's multi-pollutant planning arm, the Mid-Atlantic Northeast Visibility Union (MANE-VU), has worked similarly to address regional fine particulate matter ($PM_{2.5}$) affecting regional visibility.

Because ozone is a widespread air pollutant with significant health impacts, the OTC would benefit, as would many states and multi-state agencies, if COBRA was expanded to include consideration of emission changes affecting ozone. Ozone is a persistent, chronic air quality and public health problem for many of the jurisdictions in the Ozone Transport Region (OTR). The New York City (Connecticut-New Jersey-New York) nonattainment area continues to violate the 2008 75 ppb ozone National Ambient Air Quality Standard (NAAQS) and portions of Connecticut, the District of Columbia, Delaware, Maryland, New Jersey, Pennsylvania, and Virginia are not yet meeting the 2015 ozone NAAQS of 70 ppb. These areas are at risk of being bumped up to a moderate nonattainment classification, which will require the preparation and submittal of increasingly stringent State Implementation Plans (SIPs). Minimizing health impacts of the residents living in these areas is an important part of our planning needs.

The OTC Modeling Committee and its individual members have evaluated numerous pollutant reduction programs to determine their impacts on ozone

precursors. Evaluating these programs, however, is resource intensive. As a first step, photochemical modeling must be conducted based on emission reductions applied to an inventory, which involves significant resources provided in-kind by many states. Then an additional step is required to connect the ozone reductions in the photochemical modeling to estimated health benefits using the Environmental Benefits Mapping and Analysis Program (BenMAP). BenMAP is an important and useful tool, but the need to input the modeled output of photochemical models into it can be time consuming and resource intensive. For policy planning, the OTC needs more cost-effective tools to evaluate ozone strategy health benefits quickly and efficiently.

Our support for the expansion of this tool, when comparing the relative ozone benefits of multiple programs, recognizes that individual measures may have relatively small effects on ozone levels, and that it is the collective large impact of multiple measures that will bring areas into attainment. Therefore, the OTC Modeling Committee highlights the need for incorporating the capability of assessing large reductions in ozone precursors into COBRA to better inform air quality planners in understanding the full benefits of comprehensive strategies. Limiting applications to small incremental reductions could appear counter-productive in some core urban areas (e.g., "NOx disbenefit") without the ability to evaluate the larger precursor reductions needed to achieve attainment.

Recent research has preliminarily shown that there is potential for a reduced-form modeling tool for ozone as has been done for $PM_{2.5}$.[1,2] The OTC Modeling Committee believes the time is right to expand research into reduced-form modeling tools for ozone with the goal of incorporating them into COBRA.

The OTC Modeling Committee appreciates the opportunity to show its support for inclusion of a reduced-form ozone calculation tool and other ozone-related features in a future version of COBRA. Please contact me if you have any questions.

Sincerely,

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OTC Modeling Committee Chair
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cc: Julie Rosenberg, U.S. EPA, Chief, State and Local Branch
Emma Zinsmeister, U.S. EPA, Program Analyst, State and Local Branch
OTC Air Directors

[1] Porter, P.S. *et al.*, "A Reduced Form Model for Ozone Based on Two Decades of CMAQ Simulations for the Continental United States," 8 *Atmos. Poll. Res.* 275–84 (2017).
[2] Kristen Foley *et al.*, "Two Reduced Form Air Quality Modeling Techniques for Rapidly Calculating Pollutant Mitigation Potential across Many Sources, Locations and Precursor Emission Types," 98 *Atmos. Env*. 283–289 (2014).