Summary of Photochemical Modeling Meeting

(June 25, 2021, 3 PM – 4 PM)

Participants: Joseph Jakuta, Tom Ballou, Doris McLeod, Mike Kiss, Jin Lin, Jen Desimone, Sunil Kumar

A meeting was held on June 25, 2021 to discuss various issues related to the planned photochemical modeling analysis for the 2015 ozone attainment plan.

Specifically, following issues were discussed:

Ongoing/Planned Photochemical Modeling

OTC Photochemical Modeling Analysis

The Ozone Transport Commission (OTC) performs photochemical modeling on an ongoing basis for the OTC region. Currently, OTC is using 2016 and 2023 as base year and future year respectively for their modeling. They are using inventory developed by EPA for the year 2016 for their base case inventory and projecting that to 2023 to develop future year inventory.[1] OTC is using the CMAQ model for the above analysis. Their modeling shows attainment in 2023 for the Washington region. Though OTC analyzes issues related to the attainment of the ozone standard as part of its modeling, the focus of its effort is on interstate transport issues, estimation of benefits for various OTC rules, etc. For this reason, the group felt that there is a need for local scale modeling to perform attainment demonstration for the 2015 ozone standard for the Washington region. The group also thought that Inventories used in the OTC modeling needs to be improved, which could then potentially be used as the starting platform for local scale modeling.

MDE Photochemical Modeling Analysis

MDE is currently performing modeling analysis to analyze attainment demonstration for the Washington region for the 2015 ozone standard in addition to two additional ozone nonattainment areas in Maryland.

Virginia DEQ & MDE Photochemical Modeling Analyses

Virginia DEQ plans to undertake a local scale modeling analysis to demonstrate attainment of the 2015 ozone standard for the Washington region. DEQ plans to use 12 km by 12 km grid for the local scale modeling. Onroad and nonroad inventories developed using MOVES3 will be used in the modeling. A Modeling Technical Support Document (TSD) will be developed using the NESCAUM document as a template. The initial version of the NESCAUM TSD is expected to be available in Fall 2021 with the final version likely in early 2022 though this could change given the uncertainties associated with the final OTC modeling platform. DEQ plans to coordinate with OTC and MDE on modeling issues. DEQ also plans to coordinate with the New York Dept. of Environmental Conservation regarding inventories that will be used in the DEQ modeling analysis.

[1] OTC's inventory for point sources is different from that of EPA. OTC uses inventory developed by the Eastern Regional Technical Advisory Committee (ERTAC) for electric generating units (EGU) whereas EPA uses inventory developed by the Integrated Planning Model (IPM).

Primary vs Secondary (Weight of Evidence) Modeling Analysis for SIP Submittal

The group thought that either the DEQ modeling analysis could be used as the primary modeling analysis for the SIP submittal purposes for the Washington region along with the MDE modeling analysis serving as the Weight of Evidence analysis (to support attainment demonstration performed by the DEQ analysis) or vice versa.

Modeling Schedule, Related Inventory, and Other Details

The group thought that it was important to complete the modeling analysis by the required SIP submittal deadline (late 2022/early 2023) using the best available information at the time of submittal.

Modeling Updates to MWAQC-TAC

The group decided to provide regular updates to MWAQC-TAC in the committee's monthly meetings. Important modeling issues could also be discussed on the monthly State Air Agency Coordination meetings.