



Dec. 2017

Air & Waste Management Association Lake Michigan States Section Newsletter®



ANNUAL HOLIDAY RECEPTION

Wednesday, December 6, 2017

5:00 - 8:00 p.m.

Join fellow A&WMA members and guests to celebrate the Holiday Season.

**Illinois Institute of Technology Downtown Campus
565 W. Adams Street, Morris Hall
Chicago, IL 60661**

This event is always an enjoyable, relaxing, fun evening that provides the opportunity to meet fellow environmental professionals in a non-business setting. You will have a chance to network with your peers and their guests while enjoying cocktails and delicious hors d'oeuvres.

Attendees are invited to bring a guest and help us celebrate the holiday season. While there is no cost to attend, we are asking attendees to consider making a donation to the Stephen Rothblatt Scholarship fund. You can register to attend and/or make a donation at www.LMAWMA.org.

Sponsorship Opportunities are available for \$100

Contact Robin Pelsis at robin.pelsis@LMAWMA.org to be a sponsor; or visit our website at www.LMAWMA.org to register to attend.

Thank you to the following sponsors:



ENVIRONMENTAL BREAKFAST SERIES

Tuesday, December 19, 2017

Metropolitan Water Reclamation District's Phosphorus Recovery Programs



David St. Pierre, Executive Director
Metropolitan Water Reclamation District
of Greater Chicago

David St. Pierre, Executive Director of The Metropolitan Water Reclamation District of Greater Chicago (MWRD) will speak to a joint breakfast meeting of the Lake Michigan States Section of the Air & Waste Management Association and the Environmental Committee of the Union League Club on Tuesday, December 19th at 8 am. David St. Pierre will speak on the District's phosphorus recovery programs and particularly biological phosphorus recovery at the Calumet plant and the high strength liquid waste program to support it. He will also discuss the status of the program to accept high strength liquid waste to significantly increase production at the Calumet plant anaerobic digesters and the District's Resource Recovery Ordinance which regulates and establishes a permit program for the District's acceptance of "high strength liquid waste, vegetative material and other recovered resources."

TIME: 8:00 a.m. Registration & Breakfast
8:30 a.m. Program

LOCATION: Union League Club, 65 W. Jackson Blvd., Chicago, IL

COST: The cost to attend for non-Union League Club members is \$40 per person which includes breakfast and any presentation handouts. Students are invited to join us at a special price of \$20 per person.

RSVP: Reservations can be made on-line for non-Union League Club members at www.LMAWMA.org. Union League Club members should contact ULC to make their reservations.

CREDIT: Attendees are eligible to receive Continuing Legal Education (CLE) or Professional Development Hours (PDH) credit.

A limited number of scholarships are available for anyone who requires CLE credit to maintain professional registration such as attorneys, professional engineers and professional geologists and who could not otherwise afford to attend this conference. Contact Robin Pelsis at (847) 202-0418 or robin.pelsis@lmawma.org for more details.

Please note that the Union League Club has a "Business Casual" dress code. Jeans of any type are not allowed.

A&WMA Air Conference Attendance Up and Ends with a Millennial Twist

By Kathy Doyle, Relief EHS, LLC

The 2017 A&WMA LMSS Air Conference kicked off in style with Edward Nam, U.S. EPA Region V Air and Radiation Division Director, sharing Region V's key goals and priorities. Mr. Nam shared that EPA is currently focused on the "rule of law," compliance, and "leveling the playing field" using a "back to basics" approach. He stated that EPA is focused on process efficiency and is placing a renewed emphasis on shared accountability and trust between EPA and State agencies, termed "cooperative federalism," and other stakeholders. EPA is focused on maintaining transparency with States and with the public.

The Good News

As he turned specifically to air topics, Mr. Nam wanted to highlight the "good news" that from 1990 to today, air pollutants have trended down seventy-three percent (73%) while the economy grew three fold. In fact, lead emissions are down 99% and even ozone is down 22%, with other key air pollutants in between. Then Mr. Nam transitioned to an overview of EPA Region V's air priorities.

NAAQS

EPA has been working on the sulfur dioxide (SO₂) round three regulations and plans to finalize them by the end of the year. EPA is also focused on monitoring related to facilities in twelve non-attainment areas, noting that Region V has twenty-one of the sixty-one power plants in their three non-attainment areas. Knowing that attendees would be interested in the status of the ozone rules, Mr. Nam stated that there is no news on the 2015 ozone standard. The EPA regional offices are waiting for the decisions to be made at the national level.

Permitting & SIPS

Currently, a high priority for the administration, EPA Region V has a larger permitting staff as compared to other regions. EPA is focused on getting permits out in a timely fashion and is interested in sorting out any issues that can be anticipated ahead of time. EPA's goal is to

have permits be consistent region to region and to engage the public in the process.

Industry Partnerships

In an effort to improve partnering with industry on permits, EPA is working to provide training to State agency personnel and staff that focuses on pre-application approaches and permit meetings. Another key focus is small business compliance assistance. EPA is planning to announce educational opportunities for certain sectors of industry/business. Mr. Nam also said that they are working to share best practices, improved approaches to compliance, and ways to pre-empt public and community concerns, in the event of facility issues where public concerns would be likely. Mr. Nam concluded his formal remarks stating that EPA "appreciates being partners with you."

Keynote Q&A

Additional interesting content came from the questions raised by conference participants. Top of mind for some are the challenges the Chicago area has with Ozone non-attainment in particular. Mr. Nam received a question regarding whether EPA is considering altering their approach to attainment monitoring. Mr. Nam responded that they are currently looking at what will be a groundbreaking study regarding how Lake Michigan may be affecting ozone levels. He indicated that there will certainly be more information coming out about that study.

Another attendee asked about requirements related to the Stage 2 rules regarding emissions at gas pumps when fuel is dispensed into automobiles. Mr. Nam stated that because of how vehicles are manufactured now, the vehicles are typically capturing most of the emissions. So, he did not anticipate EPA working on this issue in the near future.

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AIR CONFERENCE (CON'T.)

As always, attendees are interested in enforcement priorities for EPA Region V. Mr. Nam indicated he had not heard what President Trump's new political appointee, Susan Bodine's priorities would be, but in the field they were continuing their enforcement work to maintain a level playing field.

Questions were also raised about the EPA's proposed budget. Mr. Nam indicated that EPA will continue to help advocate for States. In addition, EPA Region V is redoubling efforts to provide as much help as they can to States including more training, communication, and permit assistance. They also are dedicated to making sure that any reductions of federal funding to States will be over time and gradual, versus immediate cuts.

Lastly, the topic of citizen lawsuits was raised. The question centered on the fact that often agencies have been sued by non-governmental groups (NGOs) when those groups believe agency enforcement is lacking. The questioner stated that NGOs have been raising more money to support citizen suits in the event that agency enforcement appears to drop off. Mr. Nam indicated that he did not believe there would be any significant changes in EPA's approach to citizen suits or complaints. EPA prefers that State agencies take initial steps to respond to any issues in this area. He also indicated that whether or not EPA takes enforcement action based on notice of a citizen suit must be done on a case-by-case basis. With all of the parties involved, from EPA to the State agency, Department of Justice, and citizen participation, there is no "formula" that EPA uses to manage these situations.

Watch for the next issue of this newsletter (early 2018) for recaps of other speakers and sessions from the conference.

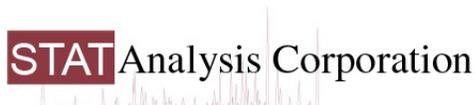
STEPHEN ROTHBLATT SCHOLARSHIP FUND

Thank you to everyone who made generous donations to the Stephen Rothblatt Scholarship Fund and to everyone who participated in the various raffles.

We would especially like to thank the various companies that have generously donated Cubs, Sox and Blackhawks tickets for our raffles. You have helped us raise over **\$2,200** this year for future scholarships.

*Thank
you*

If you know an environmental studies graduate student, remind them to watch for the opening of the 2018 Rothblatt Application period. Application will be available in early January.



AIR CONFERENCE

Thank You to the Exhibitors and Sponsors for Their Participation

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UPDATE ON GUIDELINE ON AIR QUALITY MODELS (APPENDIX W)

By: Susan L. Kuieck, PE and Amy L. Dean – Fishbeck, Thompson, Carr & Huber, Inc.

In January 2017, the USEPA promulgated significant revisions to 40 CFR Appendix W to Part 51 – *Guideline on Air Quality Models (Guideline)*.¹ The *Guideline* became effective May 22, 2017, with a one-year regulatory transition period that ends January 17, 2018. This article explores the changes being integrated into the regulatory process and how these changes may affect permit applicants.

The last revision to the *Guideline* was in 2005. With the 2017 revision, the USEPA has made substantive changes to both the model formulation and application of the preferred model, AERMOD. Additionally, the *Guideline* revisions incorporate a tiered demonstration approach to address single-source impacts on secondarily-formed ozone and fine particulate matter (PM_{2.5}). A detailed summary of changes to the *Guideline* was provided in the July 2017 edition of *EM Magazine*.²

In general, the revised *Guideline* was written to allow flexibility and encourage early dialogue between permit applicants, local reviewing authorities, and USEPA regional offices. With this enhanced flexibility comes increased ambiguity about the regulations, which has caused many applicants and permitting authorities alike to avoid implementing some of the requirements in the new *Guideline* during the transition period. With the January 2018 transition deadline approaching, many in the regulated community are asking, “How do these changes affect my permit timeline?” These *Guideline* revisions will likely require additional time for a modeling demonstration.

Major Changes

New information was presented at the 2017 USEPA Regional/State/Local Modeler’s Workshop. Some of the most notable changes affecting the permit applicant and project timelines can be summarized as follows:

- When impacts related to a project being permitted exceed the Significant Impact Levels (SILs), a

cumulative impact analysis (CIA) is required to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) – by both the previous and revised *Guideline*. The revised *Guideline* includes changes to the modeling domain (receptor grid) used in a CIA, which the USEPA believes should reduce the domain size and potentially reduce the number of nearby sources necessary to consider in the modeling. Additionally, the use of maximum potential emissions for offsite sources are no longer required for CIAs – this is also true for onsite sources which are not part of the permitting project but are required to be included in the model. Emission rates for these additional sources can, to some degree, reflect actual operations over the past two-year period rather than full potential emissions.

- The revised *Guideline* includes a modified and enhanced multi-tiered analysis for **secondary formation** of PM_{2.5} and ozone. Due to ambiguity in the final rules, this change may represent the greatest challenge to permit applicants.
- The **multi-tiered approach for nitrogen dioxide (NO₂) modeling** has been revised; the less conservative approaches (Tiers 2 and 3) have been made default options and no longer require time-consuming case-by-case approval through the USEPA and the Office of Air Quality Planning and Standards (OAQPS). With Tier 1 modeling, all nitrogen oxides (NO_x) is assumed to convert to NO₂. Tier 2 and Tier 3 screening techniques consider NO_x to NO₂ atmospheric chemistry (i.e., not all NO_x is converted to NO₂), and can result in lower NO₂ impacts. Coordination with, and approval by, the state agency is still necessary for the use of either Tier 2 or Tier 3 screening techniques.
- Modifications have been made to several **modeling options in AERMOD**, which should help reduce over-prediction of impacts in certain situations.

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¹ Federal Register 2017, 82 (10), 5,182-5,235, January 17, 2017; https://www3.epa.gov/ttn/scram/guidance/guide/appw_17.pdf

² EPA Updates *Guideline on Air Quality Models* by T. Schroeder, J. Hill, and G. Schewe; EM, July 2017

UPDATE ON GUIDELINE ON AIR QUALITY MODELS (APPENDIX W) - CON'T.

While several of the *Guideline* changes will help to reduce overall time and effort necessary to complete a dispersion modeling analysis for permit submittal, the revisions to the CIAs and the secondary formation analyses have the potential to prolong or delay the permit application process.

Cumulative Impact Analyses

The *Guideline* includes a revision to how nearby sources should be included in a CIA (which may include existing sources at the facility that are unaffected by the proposed project). It was the USEPA's intention to eliminate the overly-conservative practice of modeling all nearby sources simultaneously at maximum potential emissions at the same time the background is at the design value. The *intent* is that a CIA under the revisions will include only those nearby sources causing significant concentration gradients in the project vicinity. Furthermore, the nearby sources would be modeled at emission rates representative of actual emission rates over the most recent two-year period. In theory, this should reduce efforts involved in a CIA. In practice, however, obtaining information required to utilize emission rates less than maximum potential for the *nearby sources* may require significantly more effort.

Table 8-2 of the *Guideline* does not allow use of annual average emission rates for nearby sources, which would be easily attainable from an emission inventory system. For example, if a nearby natural gas-fired turbine emits 100 tons per year (tpy) of NO_x, this emission rate *cannot* be divided by 8,760 hours per year to determine the annual average emission rate for modeling purposes. Rather, for longer term averaging, Table 8-2 states that the maximum allowable emission limit (e.g., lb/MMBtu) should be considered along with the actual operating level (e.g., MMBtu/hr) and actual operating factor (e.g., hours per year) averaged over the most recent two-year period. Much of this detail is only readily available for emission sources with continuous emission monitoring systems (CEMS), which may not be publicly accessible. For shorter term averaging periods, the calculation in Table 8-2 for actual emission rates for the nearby sources

references use of "...a temporally representative level when actually operating reflective of the most recent two years..."³ along with an operating factor. If the state agency does not have or does not provide data to perform the calculations identified in Table 8-2, it would fall to the applicant to conduct the research for the other sources. This would increase application preparation time and associated permitting costs. If nearby sources do not utilize continuous emission monitoring systems, this effort could be extensive. In the end, however, use of the less conservative emission rates may yield NAAQS compliance demonstrations for less restrictive, more favorable operating scenarios for the project.

Secondary Formation Analyses

By far, the biggest hurdle with the revised *Guideline* is associated with the enhanced secondary formation assessment. The *Guideline* establishes a two-tiered approach, with the first tier being a semi-qualitative analysis using existing credible technical information that appropriately characterizes the project. The second tier is a quantitative approach using chemical transport models, an option the USEPA expects to be necessary in only limited cases. In the event second-tier modeling becomes necessary, it should be noted that not all state agencies currently have the resources to review these chemical transport modeling analyses.

With respect to secondary formation analyses, the *Guideline* identifies the requirements but does not give specifics regarding how the analyses are to be accomplished. Rather, the USEPA has issued draft technical guidance documents to address the *how-to* aspect of the analyses. The current draft guidance is contingent on the SILs for PM_{2.5} and ozone. Rule-making to establish new SILs is currently under review by the Office of Management and Budget and is expected to be finalized soon. The draft technical guidance for the secondary formation analyses will be issued by the USEPA in conjunction with, or shortly after, finalization of the revised SILs.

Continued on page 8.

³ *Federal Register* 2017, 82 (10), 5,220, January 17, 2017; https://www3.epa.gov/ttn/scram/guidance/guide/appw_17.pdf

UPDATE ON GUIDELINE ON AIR QUALITY MODELS (APPENDIX W) - CON'T.

Particularly concerning is that final guidance detailing the USEPA's expectations for Tier 1 demonstrations for secondary formation analyses is not expected to be issued until shortly before the one-year transition period ends. However, by January 2018, applications will need to include the updated approach for secondary formation analyses, the details of which are still under development. Any applications which are under review at state agencies, but are not issued by the end of the transition period, may be retroactively subject to the new secondary formation analysis requirements.

At the time this article was written, it was not clear if there are applicable threshold levels that trigger the requirement for secondary formation analyses. The *Guideline* is silent on threshold levels. In previous guidance, threshold levels for the project were set at 40 tpy of NO_x, sulfur dioxide, or volatile organic compounds. The USEPA is currently evaluating whether these threshold levels are negated by the *Guideline*;

however, there is some thought that the threshold levels still hold. Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) is working directly with the USEPA toward clarification of this issue.

Closing Thoughts

Early submittal of a detailed modeling protocol is strongly encouraged by the USEPA to allow time to discuss how implementation of the revised *Guideline* may impact an individual project and to reduce the potential for project delay following permit application submittal. Regional offices will be working closely with the OAQPS as the revised *Guideline* is implemented, so early discussions and protocol submittal are highly encouraged. Although much seems to be up in the air right now, the overall attitude is to establish guidance that moves away from prescriptive practices that result in overly-conservative results and to allow for more input from experts on a project-specific basis.

MEMBER NEWS

Congratulations to **George P. Nassos** on becoming the NEW Director – MS in Sustainable Management for DePaul University.

Congratulations to the **2017 Illinois Sustainability Award Winners**. Many of our fellow A&WMA members work for and with these companies.

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Weaver Consultants Group prides itself on our people - A talented group of engineers, scientists, support staff and administrators who are as dedicated to client service as they are to their professional or technical discipline. If you are a motivated and committed individual, please apply to join our growing team!

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This individual would be responsible for building the business and brand presence through strategic new customer acquisition via outside sales for specific markets. Focused on targeting new business opportunities in environmental consulting using an established network of clients within local, state, and regional markets in and surrounding Columbus, Ohio. This position will be responsible for generating revenue out of these markets at an agreed upon profit margin.

Senior Project Manager – Air Quality

Our Senior Project Manager will be located in Denver, and will be responsible for managing direct reports along with acting as a free earner in their own right. The ideal candidate will be able to demonstrate a successful track record in the delivery of services with focus on the air quality industry related to the mid-stream oil and gas sector, refining sector or the power sector. The successful candidate will have significant experience working with clients and government agencies within the US. They will have significant technical experience and report writing. This role requires internal and external people management and commercial skills.

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Primary responsibilities are the execution of office and field tasks assigned, and will include, but not be limited to, management and implementation of office and field activities.

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The Senior Project Manager - Industrial Hygienist will be responsible for establishing and providing consulting services related to industrial hygiene, safety and environmental services and is responsible for productivity and profitability as well as their direct reports.

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