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**Air Quality Control Advisory Council Meeting Minutes
September 16, 2024 @ 9:00 am
Virtual meeting held by MDE**

AQCAC MEMBERS PRESENT

Todd Chason, Esq, Chair

Ben Hobbs, PhD, Vice Chair

Anne Klase

Megan Latshaw, PhD

Nicole Cook, JD

Ross Salawitch, PhD

Sania Amr, MD, MS

Sunhee Park, PE, BCEE

Thomas Dernoga. JD

Weston Young, PE

MDE

Chris Hoagland

Randy Mosier

Kelsey Sisko

Eddie Durant

Scott Thompson

Justin Smith

Joe Winters

Zach Berzolla

Kathryn Seaman

John Artes

VISITORS

Wendy Rimbey

Regina Aris

Chris Pendley

Ashita Gona

Andrew

Kim Pezza

Rebecca Rehr

William Castelli

Ariel Solaski

Christopher Stix

AQCAC MEMBERS ABSENT

Adrienne Hollis, PhD, JD

Anna Marshall, AICP

Arielle Wharton

Larry Schoen, PE

Thomas Killeen

Carolyn Jones

Scott Zacharko

Mark Stewart

Allison Tjaden

Daniel Newell

Julianne Hilton

Doris Lange

Christopher Mentzer

Sam Furio

Gabrielle Leach

Lisa Post

Chelsea Steffes

Camryn Arnstein

Hannah

Dave Arndt

Brittany Baker

Mariah Shriner

Sari Amiel

Todd Nedwick

Terrell Mwetta

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This is a summary of the September 16, 2024, Air Quality Control Advisory Council Meeting and serves as a record of the Council's vote on regulatory action items. The meeting is recorded and the digital file is maintained by MDE/ARA. This digital file is considered public information and may be reviewed in its entirety by anyone who is interested in the details of the discussions.

MDE website: <http://mde.maryland.gov/programs/workwithmde/Pages/AQCACmeetingminutes.aspx>

Mr. Chris Hoagland, Director of the Air and Radiation Administration, MDE, began the meeting by asking Mr. Randy Mosier if there were any logistics he wanted to go through before himself and Mr. Todd Chason, AQCAC Chair, began opening remarks. Mr. Mosier reminded the Council this meeting is just to provide briefings on upcoming climate actions the Department are considering and working through at the moment, and the only action item being brought to the Council are the approval of meeting minutes from the July 29, 2024 AQCAC meeting.

Mr. Hoagland began opening remarks by stating again that there are only briefings for this meeting, no action items. MDE's Climate Change program will be briefing the Council on two future regulations called for by the Governor's Executive Order on climate change on June 4, 2024. These future actions primarily address greenhouse gas emissions and pollutants from buildings. Mr. Mark Stewart, Climate Change Program Manager, MDE, will provide the briefing on these regulations. These are two interesting new regulations that will be brought to the Council in the first half of next year (2025) in the form of regulatory text after MDE conducts more stakeholder meetings and policy analysis before fully drafting the regulations. Today's briefing will show a preview of these two regulations in some detail that MDE is implementing under the Executive Order and the Climate Change Plan that was issued last December 2024.

Mr. Hoagland added that ozone season is coming to an end, and when MDE has a final count of ozone exceedances, it will be brought to the Council with another update and MDE will see where the state landed this season and what our three-year design value means with regards to attainment status. As the Council recalls, the Canadian wildfires last year bumped Maryland out of attainment for the 2015 ozone standard and that required Maryland to undergo various policies and procedures required by the Clean Air Act. Since Maryland is currently not meeting the 2015 ozone standard, MDE needs to do more planning, more regulations, and more large projects to address ozone pollution. Where Maryland ends up at the end of this ozone season as a result of monitored data will determine whether the state is back in attainment, depending on how EPA will act or not on MDE's Exceptional Event demonstrations that address the Canadian wildfires. There is a lot of uncertainty for the next couple of months, but hopefully by December MDE can bring a better picture to the Council of what MDE expects the state's formal attainment status with ozone will be in the next couple of years – and then there will be formal processes next year to codify that status. Another topic pertaining to the National Ambient Air Quality Standards, EPA updated the fine particle standard earlier this year. MDE's assessment so far indicates that the state is already attaining that standard. MDE will be following the formal Clean Air Act processes for when a pollutant standard is updated and the state's already demonstrating attainment. MDE has until February 2025 to determine and submit Maryland's attainment status with the updated PM standard.

Coming up the Council will hear about future regulations important for both climate change and ozone, because nitrogen oxide reductions are at play in these regulations. These are policy concepts that are coming together and will be brought to the Council again when the regulations are formed for the Council's formal action early next year.

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MEETING MINUTES

Mr. Chason asked if there were any questions or comments for the July 29, 2024 meeting minutes before approval. No comments were made by the Council.

The Chairman motioned for approval of the meeting minutes. A motion to approve the meeting minutes as presented was made by Dr. Sania Amr and seconded by Mr. Weston Young. All members voted in favor to approve the meeting minutes from July 29, 2024 at approximately 9:11 a.m.

BRIEFINGS

Clean Heat Rules

Mr. Mark Stewart, Climate Change Program Manager, MDE, presented to the Council two regulatory concepts that will be brought to the Council next year: the Clean Heat Standard and Zero Emission Heating Equipment Standard. Mr. Stewart stated that the issue is that burning fuel in buildings produces air pollution that is harmful to human health and contributes to climate change. Approximately 70% of NOx emissions in Maryland are from vehicles and 30% are from stationary sources, including buildings. NOx and other forms of air pollution from fuel-burning equipment harms children and adults in many ways, such as causing respiratory issues and other health implications, and Maryland is required to reduce criteria pollutants to meet increasingly stringent air quality standards and protect the public's health. Mr. Stewart gave an overview of how fuel-burning equipment is responsible for around 16% of Maryland's greenhouse gas (GHG) emissions, how reducing fuel use in buildings is a critical part of Maryland's plan to achieve its GHG emissions reduction requirements, and how policies have not so far reduced total fuel use in Maryland's building sector. Mr. Stewart then presented to the Council on a solution: ultra-low NOx and zero-emissions heating equipment to reduce or eliminate direct emissions and provide low energy costs. Mr. Stewart gave an overview of the equipment, costs, incentives, and other important policy information. Maryland is creating these two regulations under an Executive Order issued by Governor Wes Moore, 01.01.2024.19, requiring MDE to propose Zero-Emission Heating Equipment Standards (ZEHES) and Clean Heat Standards (CHS).

The ZEHES regulations establish NOx and GHG limits for space heating and water heating equipment. ZEHES sets emission standards for furnaces, boilers, and water heaters. Three states have adopted low-NOx standards for water heaters and at least ten states are considering ZEHES. California agencies are pursuing zero-emission standards for water heaters and furnaces, and NESCAUM is developing a ZEHES Model Rule with input from state air regulators and heating equipment manufacturers. NESCAUM plans to publish its ZEHES Model Rule this October (2024). Mr. Stewart laid out the inputs to the ZEHES Model Rule and gave a Model Rule Overview. The pollutants covered in the Model Rule are NOx and combustion GHG (carbon dioxide, methane, and nitrous oxide). The equipment types covered are furnaces, boilers, and water heaters. The fuel types covered are pipeline gas (natural gas), heating oil, and propane. This Model Rule requires a low-NOx or zero-emission option when installing new equipment in both new and existing buildings are specific compliance dates, but it does not require changing out existing functional equipment, it allows existing equipment to be serviced and maintained, and it allows for temporary installation of non-compliant equipment. MDE intended to get stakeholder input on the Model Rule in 2024 and adopt a final ZEHES rule by the end of 2025.

The CHS regulations will require the building sector emissions to be reduced at the pace required to meet Maryland's clean air and climate change goals. CHS is a performance standard, requiring fossil heat

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providers to deliver a gradually-increasing percentage of clean heat services to customers. The CHS encourages fossil heat providers to become clean heat providers. This is similar to the Renewable Portfolio Standard for the electricity sector. The clean heat schedule matches the state's GHG reduction schedule, which clean heat choices from weatherization, electric heat pumps, and alternative fuels. Obligated parties can help to customers to convert to zero-emission heating systems, deliver alternative fuels, or purchase credits from others. Eligible actions can earn Clean Heat Credits even if "caused" by other programs – e.g. federal rebates and tax credits, WAP, EmPOWER, private HVAC contractors, or others. Mr. Stewart talked about the elements of the CHS, who an obligated party is, what an obligation is, what actions earn Clean Heat Credits, what the environmental guardrails are, how equity is addressed in CHS, and when the CHS program would begin. Mr. Stewart listed the benefits of CHS, and that at least ten states, including a cluster in the Mid-Atlantic and Northeast, are developing or considering CHS. MDE intends to adopt a CHS Reporting Rule in 2025 and add Performance Standards in 2026. MDE is seeking stakeholder input and included the Fall 2024 outreach schedule for the Council to see. Mr. Stewart encouraged the Council to reach out with questions and provided an email for Ms. Camryn Arnstein, camryn.arnstein@maryland.gov.

Dr. Ross Salawitch asked about CHS and if the gas companies pay for the new heat pumps in the customers' homes and get credit for it? Who pays, and why would a gas company do this if they are not selling gas to the customers? Mr. Stewart responded by saying that customers are already taking advantage of federal and power incentives, and all of these things will generate clean heat credit. There is a lot already happening that is generating, or has the potential once registered, to generate clean heat credits and help the obligated parties meet their obligations, including BEPS. The large buildings are doing a bunch of projects to decrease emissions that generate clean heat credits. The gas utilities themselves are getting into network geothermal installations and are expanding their services to be clean heat providers. The gas utilities have been really progressive on this front presenting their own decarbonization plans – BGE has a very robust decarbonization plan for their system and Washington Gas presented to DC customers their decarbonization plan. This fits hand and glove with CHS because the transition the gas utilities have articulated is one that can be supported through the CHS in being a wide ranging program that allows for a lot of different measures to be installed. MDE sees that a lot of the clean heat credit acquisition is going to happen because of the things already happening, but MDE also anticipates that there is going to be a need for additional clean heat credits to be earned. Mr. Stewart thinks there is a lot of opportunity that MDE has through partnership with the gas utilities and heating field distributors to have them play a role in getting the information out to customers about all of these incentives. For example: for a typical consumer, if your water comes out of the shower cold, you call a contractor and you tell them your water is cold. That contractor might show up, with little conversation, and swap out the old gas water heater out for a new one, and for the next 12/15 years, you are locked into another gas water heater. Mr. Stewart stated that a lot of this is about encouraging the conversation to climate friendly alternatives. There may be some additional cost for the gas utilities and the fuel distributors to promote those incentives and to offer additional incentives, and presumably they would bake some of that cost into their general cost of services for their customers. Dr. Salawitch stated this this didn't quite answer his question, and they can talk offline, and he was more tangibly wondering how a gas company benefits? Mr. Hoagland stated that the gas utilities would have to provide credits, just like under the renewable portfolio standard, the electric utilities have to provide credits representing clean electricity. The gas utilities would then have to provide credits representing clean heat. They could do that by offering incentives for customers to install heat pumps themselves and then claim the credits from those but they could also purchase credits from all of the heat pumps that people are already putting in because they are getting funding from some other source and since there are already so many different funding

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sources out there, MDE thinks a lot of these credits will effectively be provided, more or less funded, by these other programs so there wouldn't necessarily always be a net cost. Again, to the extent MDE is trying to accelerate, there could be, sometimes these credits could cost money, and the regulated entities would have to pay to procure them. There would be some regulatory costs just like any regulation, but generally, functionally, gas utilities and the delivered fuel suppliers have to provide credits sufficient to achieve the clean heat goal for the year.

Ms. Sunhee Park heard Mr. Stewart mention an alternative fuel such as hydrogen. Is there any word of a hydrogen fired unit? Ms. Park is not aware of any out on the market yet. Mr. Stewart stated no. It is important to see the two regulations moving together because what MDE sees in terms of the typical solution for small, regular heating equipment that delivers low temp space heating and water heating, which is the majority of our energy use and emissions from the building sector. The state has tried and true zero-emission heating equipment that does not need to run on hydrogen or biofuel that is serving that space very well and providing very low customer costs. There is, however, a role for alternative fuels for higher temp applications for larger scale applications, all of which, remember, the building sector is a large, diverse sector. MDE sees, potentially, a role for alternative fuels in some niche areas, especially for higher temp applications in certain parts of the building sector.

Dr. Ben Hobbs wanted to follow up on Dr. Salawitch's comment that there is a bigger issue with the gas utilities and the whole death spiral dynamic that's going to result from electrification and switching away from gas and that as the transition moves and we get closer to a decarbonized heating sector, the extreme, of course, is one customer bearing all of the gas network costs because everyone else has switched away. Clearly, the program will have to be redesigned in the meanwhile. Dr. Hobbs stated we may start with something like this, but if indeed the death spiral does happen for gas utilities, there are going to have to be bigger changes and this will be basically another burden for gas utilities, but probably will not be the biggest problem they face. Hopefully we will have time to adjust and figure out how to do this in a way that is fair to gas customers and everybody else. Mr. Stewart appreciated the comment, and stated that gas rates have been increasing for gas customers in Maryland and it is among the reasons MDE sees it is really important to think about and promote the alternatives to customers who are already burdened with rapidly increasing gas costs.

Mr. Mosier made mention of Dr. Megan Latshaw's comment in the chat and if she would like to read it. Dr. Latshaw read her comment, stating that Mr. Stewart's presentation mentioned health impact assessments for both regulations, and she believed that Mr. Stewart stated the one for ZEHES was already done. Can it be shared and who does these health impact assessments? Mr. Stewart stated in neither case are they final, but when they are complete, MDE will be happy to share them. Dr. Latshaw followed up asking if the Department of Health conducts these. Mr. Stewart stated no, MDE has a variety of consultants that are doing different analyses. For the CHS, MDE has access to a consultant that they cannot share the name of yet, but for ZEHES, this is being supported by NESCAUM and NESCAUM had hired a consultant named Energy Solutions to do comprehensive impact analysis. MDE is supplementing that with an additional analysis that MDE has contracted through AECOM. There are other organizations out there, like RMI, that have been trying to analyze the impact of a Maryland specific ZEHES policy. So MDE has analyses coming in from a lot of different angles, and conveniently they are really corroborating each other and helping MDE hone in on what MDE thinks is a pretty reasonable expectation of the impacts because there's so much consistency in the findings between these different draft analyses MDE has seen so far.

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Mr. Chason asked for any public questions. Mr. Mosier made mention of one comment or question in the chat. Mr. Stewart read the question. (It is also posted below)

Dave Arndt - Do we have a backup plan in case CO2 capture does not work?

<https://www.commondreams.org/news/carbon-capture-leak>

Mr. Stewart responded to the question stating this is maybe referencing one slide he presented that showed the emissions trajectory under MDE's Climate Plan and in MDE's net-zero emissions by 2045 scenario and modeling, there is a role for CO2 removal technologies to capture some of the CO2 emissions that are still being emitted by economic activities in Maryland. That is something that is very important for MDE to dig into more. In the modeling environment, it deployed a lot of CO2 removal technologies because it found that it was cheaper to do so, to build these new technologies to pull CO2 out of the atmosphere. It was cheaper to do that than to squeeze the last bit of emissions out of Maryland's economy. In the modeling environment, that's why it has the role that it has. Year by year, as the state of technology advancements, the economics of reducing emissions changes, so Mr. Stewart said that this piece in particular is a piece where MDE is going to focus more and more in our future modeling and in the development of our next climate plan. By the end of this decade, the state's final plan to achieve net-zero emissions by 2045 is due, so it is on MDE's to-do list to further refine to expectations around CO2 removal technologies in the state's final net-zero emissions plan. MDE's primary focus right now is a 60% reduction in gross GHG emissions by 2031, so MDE is not diving into the deployment of CO2 removal technologies at this point to support the long-term net-zero goal.

Mr. Chason asked for final questions and thanked Mr. Stewart for the presentation and everyone at MDE for the important briefing. Mr. Chason stated that it is very helpful for the Council to get this information ahead of time to be able to think about it and formulate questions. If Council members have additional questions they would like to ask between now and the next meeting, Mr. Chason asked for them to be sent to the Department so the conversation can be kept going – these regulations will play out over a multi-year period.

Mr. Mosier reminded the Council of the upcoming December 9 meeting, and the Department is potentially planning to bring a minor action item and potentially continued updated briefings on MDE's climate plans. Proposed dates for 2025 AQCAC meetings will also be shared. Mr. Hoagland added one last comment on a prior action item, the re-proposal of the Building Energy Performance Standards (BEPS), had been printed in the Maryland Register and is out for comments now. The hearing date is set for October 9, 2024.

CLOSING DISCUSSIONS

Mr. Chason motioned for the meeting to adjourn at 9:56 a.m.

The meeting was adjourned.

The next AQCAC meeting is scheduled for December 9, 2024 and is the last meeting scheduled for the year.