

The EPA disbanded this panel of clean-air experts – they're meeting again anyway

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In 2015, a panel of experts was convened to help advise the U.S. Environmental Protection Agency about the best available science related to clean-air standards for particulate matter. In 2018, the EPA disbanded the group, raising questions about how and whether the agency would incorporate scientific expertise into its clean-air policy.

However, the disbanded group of experts re-convened independently in order to provide their scientific expertise on these clean-air topics in a public forum. The group will be meeting Oct. 10-11, and will be chaired by Chris Frey, the Glenn E. Futrell Distinguished University Professor of Civil, Construction, and Environmental Engineering at NC State.

We recently had the opportunity to talk with Frey about the upcoming meeting, what led up to it, and what he and his colleagues hope to accomplish.

The Abstract: In October, you'll be chairing a meeting of the Independent Particulate Matter Review Panel (IPMRP). My first question should really be, "What is the IPMRP?" But I feel like we need to explain a couple other things before

we can get to that part. So, let's start with: What is the Clean Air Scientific Advisory Committee (CASAC), and what is its role?

Chris Frey: Under the Clean Air Act, the U.S. Environmental Protection Agency must periodically and accurately [review](#) the latest scientific knowledge regarding adverse effects on [human health](#) and public welfare from pollutants that are regulated under the National Ambient Air Quality Standards program, or NAAQS.

The Clean Air Act also requires that the EPA Administrator be advised by an independent scientific committee, the Clean Air Scientific Advisory Committee (CASAC), which is legally required to have seven members. CASAC is required to review the available science and advise the EPA administrator regarding whether to revise existing standards or create new standards.

CASAC is also required under the Clean Air Act to advise the Administrator on research needs and the portion of ambient air pollution that is from background natural sources. In setting NAAQS, EPA must protect public health with an adequate margin of safety. The U.S. Supreme Court has ruled that EPA is prohibited by law from considering cost or feasibility of compliance when setting standards. Thus, NAAQS are unlike many other air pollution standards in that they are explicitly and solely based on protection of public health and public welfare, and they are explicitly to be based on a thorough scientific assessment.

There are currently more than 120 million people in the U.S. who live in areas that fail to attain the current health-based standard for ground level ozone, and over 20 million living in areas that fail to attain the current health-based standard for fine particulate matter. So this is a serious issue that affects the lives of millions of Americans.

CASAC's opinion is important because federal

courts have generally found that EPA must follow CASAC's scientific advice in setting or revising air quality standards—unless the agency has a compelling rationale for not doing so.

I was a member of CASAC from 2008 to 2012, and I chaired CASAC from 2012 to 2015. From 2007 to 2018, I participated in CASAC review panels for all of the pollutants regulated under the NAAQS, including ozone, particulate matter, nitrogen dioxide, sulfur oxides, carbon monoxide, and lead. I chaired reviews for ozone, nitrogen dioxide and lead.

TA: What is particulate matter, and what was the job of the CASAC Particulate Matter Review Panel?

Frey: Particulate matter includes small liquid droplets and tiny solid particles. Some of these are emitted from sources such as cars and power plants, while others form in the air, such as from condensation of organic compound vapor. Particulate matter is divided into size ranges, and the size range most associated with adverse human health effects is "fine" particulate matter, also known as PM_{2.5}. PM_{2.5} refers to particulate matter that is less than 2.5 micrometers in diameter. By comparison, a human hair is typically 50 to 70 micrometers in diameter. PM_{2.5} particles can get past the body's natural defenses, such as nose hairs, and penetrate deep into the lungs, where they can cross into the bloodstream. In prior scientific reviews, PM_{2.5} has been found to cause respiratory and cardiovascular illness, and contribute to premature death. Globally, PM_{2.5} is implicated in the deaths of millions of people each year.

The CASAC Particulate Matter Review Panel was formed in 2015 to assist the CASAC with the current review of the NAAQS for particulate matter. For more than four decades, it has been well-recognized that the extent of scientific knowledge needed to review air quality exceeds the capabilities of any seven people. This is because many scientific disciplines and areas of expertise are required. Examples include air quality measurement and modeling; human exposure to air pollution; epidemiology; toxicology; medical clinical

studies of human subjects; statistics; risk assessment; visibility effects; and others. Furthermore, for key disciplines, it is important to have multiple experts who have a diversity of experience and perspectives. Thus, for each review cycle for a given pollutant, CASAC has been augmented with review panels. The CASAC PM Review Panel had 20 experts in addition to the seven members of CASAC.

TA: The CASAC PM Review Committee was disbanded in 2018, shortly before EPA proposed updates to its integrated science assessment for particulate matter. What is an integrated science assessment, and what role would the CASAC PM Review Committee have had in reviewing the proposed changes to that assessment?

Frey: The CASAC PM Review Panel was formed in November 2015. Our panel first met in 2016 to review EPA's plan for conducting the scientific assessment. We learned that the panel was disbanded in a press release from then-acting EPA Administrator Andrew Wheeler, on Oct. 10, 2018. None of us on the panel were given any advance notice or warning that this would happen. At the time, no reason was given. Later, Administrator Wheeler claimed that the panel was disbanded to speed up the scientific review. However, in my 12 years of experience on 10 different review panels, I have not observed any delays due to the existence of a panel. Rather, the panels are essential to engage the needed experts, without which CASAC cannot effectively discharge its duties under the Clean Air Act.

Five days later, EPA released a 1,881-page draft Integrated Science Assessment (ISA) for particulate matter. The ISA is essentially a large literature review of all of the scientific information relevant to review of particulate matter. Additionally, the ISA includes analysis by EPA staff regarding questions such as what adverse health effects are caused by exposure to particulate matter, what groups of people are most at-risk from such exposures, and what are the other adverse effects of particulate matter such as reduced visibility or damage to materials.

The CASAC PM Review Panel would have provided a thorough expert review of the draft ISA. Instead, the review was done in December 2018 by only the seven members of CASAC. In April 2019, the CASAC issued its review report, advised Administrator Wheeler that no seven people are sufficient for the complexity of the review, and asked that EPA reappoint the disbanded panel or form a similar panel. In July 2019, the Administrator declined CASAC's request. Instead, the Administrator made an unprecedented decision to form a "pool" of consultants who may respond to written questions from CASAC members. On Sept. 13, without any prior opportunity for public comment on nominees, Administrator Wheeler announced appointments of 12 consultants. However, this pool of consultants does not have the same breadth, depth and diversity of expertise as the disbanded panel.

TA: Okay, with all of that background established—what is the IPMRP, and why was it established?

Frey: I'm proud to say that being disbanded is not an obstacle for our panel. If anything, being told that we were unilaterally terminated has redoubled my determination to discharge the public service to which I originally agreed. Furthermore, as I and others have stated in public comments, Administrators Pruitt and Wheeler made changes to the scientific review process for the NAAQS that have undermined the quality and credibility of the process. Thus, I and others feel we should do what we can to provide EPA staff and leadership with access to the best scientific expertise, in the interests of provide a strong scientific foundation for decision making about the particulate matter standards.

Within a month of being disbanded, we formed the Independent Particulate Matter Review Panel, or IPMRP, serving as independent science advisors recognized for our national leadership in policy-relevant science pertaining to the particulate matter NAAQS.

The mission of this panel is three-fold: (1) to provide independent advice regarding technical and policy assessments pertaining to the EPA's review

of the PM NAAQS; (2) objectively observe and assess modifications to the NAAQS Review Process and their implications; and (3) educate the public about the public health and public welfare objectives of the NAAQS, the NAAQS review process, and scientific issues pertaining to the NAAQS. Given the process under which this group was originally formed as the CASAC PM Review Panel, we are recognized for our expertise and our independence.

Our panel has already been active. On Dec. 10, 2018, we submitted our comments and advice regarding EPA's draft Integrated Science Assessment to the CASAC, followed by additional comments submitted on March 27, 2019. Broadly speaking, we found that the draft ISA appropriately identified and characterized the key health effects from exposure to [particulate matter](#).

We are now gearing up to review a newly released 450-page EPA document, the draft Policy Assessment. The Policy Assessment is the last major step in the science-based review process, in which EPA staff take scientific information from the ISA and use it to answer policy-relevant questions such as: Is the current standard adequate to protect public health and welfare? If not, what alternative standards should be considered by the administrator? The Policy Assessment is intended to serve as a foundation for the administrator to decide whether to retain or revise the current standards.

TA: What is your role regarding the IPMRP? Were you on the CASAC Particulate Matter Review Committee?

Frey: I was a member of the CASAC PM Review Panel that was formed in 2015. After we were disbanded, I volunteered to help members of the panel create a consensus statement of written comments in December 2018 and March 2019. I have kept the panel informed of various developments that affect how the NAAQS review is being done now compared to prior reviews. This work is not possible without the active support of many people. Our panel includes several members who have also served on the chartered CASAC. Thus, we have a lot of combined experience

regarding how to organize and manage this type of review activity. I am currently serving as chair of the panel.

TA: Why is the IPMRP meeting on Oct. 10 and 11?

Frey: This can be a long story but I'll try to give the short version. We have known for months that EPA would release a draft Policy Assessment sometime in the early fall. However, we did not know the exact date. We agreed that we would convene to review the Policy Assessment, which is what we would have eventually done anyway had we not been disbanded. When the Policy Assessment was released in early September, we scrambled to poll members to find dates that would work for as many people as possible.

We also wanted to hold our meeting before the CASAC will meet on the same Policy Assessment, so that we can formulate advice and provide it to the CASAC in advance of its deliberations. However, we did not know when CASAC would meet. Thus, we had to make a guess at a good meeting date. After we picked the date, we realized that our meeting will coincidentally start on the one-year anniversary of our disbanding.

We are fortunate to have help from the Union of Concerned Scientists, which is providing travel support so that panel members can convene face-to-face in Crystal City, Virginia, near Washington, DC. We are meeting at the same location as the most recent in-person CASAC meeting. This will enable us to have the depth of interactive deliberation needed for this complex subject matter. UCS does not take policy positions on NAAQS criteria and standards, other than to advocate that independent science advice is followed. The content of the meeting is at the sole discretion of the IPMRP. The viewpoints and opinions of members of the IPMRP, and of the consensus of the IPMRP, are their own and do not represent any position of UCS.

TA: What are you hoping will come out of the meeting?

Frey: We will do what EPA tried to prevent us from

doing: advise CASAC, EPA staff, the EPA administrator, and the public regarding our scientific advice pertaining to key science and policy issues. We will consider whether the current standards are adequate to protect public health given new scientific evidence available since the last time the standards were revised in 2012. If the panel finds that a standard is not adequate to protect public health, then the panel will recommend possible alternative standards based on the best available science. We will also provide advice regarding research needs and background concentrations. We may also have new findings regarding the effect of numerous changes to the NAAQS review process that have occurred in the last two years.

We will place our written report into the docket for this review cycle, which obligates EPA to look at our findings and advice. We would like for our findings and advice to be considered by EPA staff as they revise the draft Integrated Science Assessment and draft Policy Assessment into final documents, and by the administrator in making a decision regarding whether to retain or revise the existing standards.

Provided by North Carolina State University

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