

Clean Air Act Advisory Committee

Mobile Sources Technical Review Subcommittee

**Virtual Meeting
July 31, 2023**

Welcome & DFO Opening Remarks

This Mobile Sources Technical Review Subcommittee (MSTRS) meeting was held remotely via Zoom. Jessica Mroz, the Designated Federal Officer (DFO), welcomed all members, the press, and the public to the Mobile Sources Technical Review Subcommittee (MSTRS) meeting. Ms. Mroz introduced herself and performed a roll call for MSTRS members. She noted that the meeting is open to the public, and there will be time later in the day for public comment. A list of attendees is included in Attachment 1.

Agenda

3:00 – 3:05 pm	DFO Opening Remarks
3:05 – 3:15 pm	MSTRS Chair Opening Remarks
3:15 – 3:30 pm	Close-out Discussion from Spring Meeting
3:30 – 4:00 pm	Discuss Possible Locomotive Charge Question #1
4:00 – 4:30 pm	Discuss Possible Locomotive Charge Question #2
4:30 – 4:45 pm	Call for Locomotive Workgroup Volunteers, Discuss Next Steps
4:45 – 5:00 pm	Public Comments
5:00 pm	Final Remarks & Close

MSTRS Chair Opening Remarks and Close-out Discussion from Spring Meeting

Ms. Mroz introduced Rich Kassel, MSTRS Chair, and pointed out that this is his last meeting with the subcommittee, as his term is ending. Mr. Kassel introduced the purpose for the meeting, reviewed the actions the EPA is undertaking regarding locomotive emissions, and reviewed the information that was presented at the last MSTRS meeting regarding locomotives.

Discussion of Possible Locomotive Charge Question #1

Mr. Kassel called on Ms. Lauren Steele of the EPA to introduce the first potential charge question for a locomotives work group. Ms. Steele presented the charge question, noting that this is a draft version that the EPA would like feedback on. The draft charge question was, “What are the

factors EPA should consider in developing emission standards for the existing fleet of locomotives when they are remanufactured or otherwise become new?”

Discussion

One member noted a preference for the standards to focus on the pollutants of concern, mentioning that this is the way the EPA has been measuring locomotive emissions and their impacts on human health. The member also suggested that there should be a deadline by which locomotives must upgrade.

Another member commented that it was unclear why there would not be a focus on redefining “remanufactured” to include more of the regular updates companies make to locomotives.

A member stated that the EPA should be considering more than just incremental shifts in the engine and investigate when conversions to zero-emissions should be required.

One member remarked that locomotives are large complicated systems, and it might be useful to consider potential emissions reductions that could be realized from the other systems on the locomotives, not just the freight-moving engine. The member also said that the reasonable useful life of a locomotive engine and the other systems should be determined and used in the definition of “rebuild.”

Ms. Mroz reminded the subcommittee that their comments should be directed toward whether the charge question should be revised or not.

One member suggested that the subcommittee should think about strategies to accelerate fleet turnover while considering the costs to the industry.

Another member reflected that there needs to be an understanding about how to get the industry to trust the Tier 4 options available and also to gain an understanding of the infrastructure needs of those options.

A member stated a desire to understand how many locomotive remanufactures occur annually and where they occur geographically. The member also mentioned a desire for requirements for community engagement and an understanding of how greater fleet turnover could be attained.

One member stated that the charge question seemed limiting and would like it to be open for consideration of other issues, like reporting requirements and requiring some amount of zero-emissions standards for some components.

One member asked whether the emissions standards apply to the engine only or to the whole locomotive, including other subsystems. Ms. Steele replied that the emissions standards could be formed in any way that made sense, whether that would be for the engine only or for the whole locomotive. She added that the work group could discuss definitions, but that would likely be much more work for the group.

A member commented that energy efficiency opportunities should also be considered, and there may be a way for an emission standard to incorporate that.

One member suggested that technologies already available should be considered, such as those used in other countries. Tax and other policies for companies acquiring railroads and locomotives could also be considered.

Discussion of Possible Locomotive Charge Question #2

Ms. Steele introduced the second draft charge question for a locomotives work group, which was “What technologies should EPA consider in setting the next set of emission standards for freshly manufactured locomotives?”

Discussion

One member stated that the EPA should be considering a zero-emissions standard. The member added that zero-emissions technologies would avoid deterioration issues, reduce climate change-causing emissions, and improve public health.

Another member asked whether it is possible to get in-use testing of Tier 4 technologies to see how they perform over time.

One member remarked that zero-emissions technologies are not available yet for line haul locomotives, so it would be better to see a pathway to getting 95% to 99% emissions reductions now with retrofits for these locomotives than doing nothing until zero-emissions technology is available.

A member registered support for efficiency standards, even for zero-emission technologies, because the goal should be to use fewer resources in addition to achieving less pollution directly from a locomotive.

One member preferred that any standards remain technology-neutral, since the best option may change over time.

Another member mentioned that greater enforcement activity may be needed since there has been cheating in the past.

One member noted that the EPA has a good framework for heavy-duty vehicles that could be adapted to locomotives. The member also mentioned that in-use and sensor technologies could help with enforcement and to determine emissions reduction technology performance over time.

A member stated that a single locomotive standard is not needed, and there should be consideration given to each type of locomotive, such as switchers. The member also agreed that the heavy-duty standards could be adapted to locomotives in how they handle remanufacture and the time that they can be put back in service. The member further agreed sensor monitoring for heavy-duty vehicles to evaluate emissions performance is currently being done in California, and this could be done for locomotives also.

One member asked about the scope of the charge question and whether activity could be considered also, such as anti-idling programs. Ms. Steele replied that there are idle reduction standards already, but the EPA is considering how those measures could be improved.

One member stated that telematics and geofencing technologies could be installed by the manufacturers, which could have a direct effect on how the locomotives manifest their emissions.

Public Comment

Adrian Martinez remarked that he is glad the EPA is working to address locomotive emissions, as communities affected by those emissions need relief.

Yasmine Agelidis stated that in weighing factors regarding emissions reduction techniques or requirements, environmental and health impacts should be weighted and considered along with the costs to industry to adopt and use the emissions reduction technology or techniques. She added that zero-emissions should be the focus of the discussion and that overhead catenary and discontinuous catenary systems should also be considered.

Molly Greenberg commented that both the upstream and downstream impacts of technology need to be considered when making decisions. She also noted that idling is a major issue, and there is no accountability for time spent idling. For the workgroup charge, she suggested that it be forward-looking.

Raquel Martinez stated that there needs to be acknowledgement regarding the power dynamic, in which environmental groups have no one to report their concerns to regarding locomotives. She said that there needs to be a mechanism for which their concerns will be considered and addressed.

Beto Lugo Martinez suggested that in future meetings, he and others could help arrange tours of neighborhoods near railyards so the regulators could see the communities first-hand. On another note, he remarked that railyards are not the only sources of emissions in these neighborhoods, and all data should be considered when calculating the burden to these communities, including exceptional events.

One MSTRS member agreed that tours would be a good idea for the workgroup or the MSTRS, so that those less familiar could get a feel for these operations and the communities near them. The member also suggested that the EPA have a short tutorial about locomotive operations, like a “Locomotives 101.”

Work Group Volunteers

Ms. Mroz asked for those interested in participating in a locomotive workgroup to raise their hands. She also noted that folks could send her an email to volunteer for participation in the work group. Those who raised their hands during the meeting are listed below.

MSTRS Member Volunteers

Mary Arnold
Clay Pope
Michael Cleveland
Matt Spears
George Lin
Joanne Rotondi
Aaron Katzenstein
Dave Cooke
Michael Replogle
Erik White
Raquel Garcia
Lori Clark

Non-MSTRS Member Volunteers

Yasmine Agelidis (Earthjustice)
Molly Greenberg (Moving Forward Network)
Cecilia Garibay (Moving Forward Network)
Ajay Mangat (CARB)
Heather Kryczka (NRDC)
Mary Cruz Guitierrez (Southwest Detroit Environmental
Vision)
Simone Sagovac (Southwest Detroit Community Benefits
Coalition)
Siddiq Khan (DOE)

Closing remarks

Ms. Mroz and Mr. Kassel thanked everyone for their participation. Ms. Mroz noted that the EPA is planning for the next meeting to take place in person, and she will send members a Doodle poll soon to request information about dates for the fall meeting. She noted that it will likely be in early November. She then adjourned the meeting.

Attachment 1

MSTRS Members Attendee List	
Mary Arnold	Civics United for Railroad Environmental Solutions, Inc.
Matt Barth	Institute of Electrical and Electronics Engineers
Chris Bliley	Growth Energy
Lori Pampell Clark	North Central Texas Council of Governments
Michael Cleveland	Association of American Railroads
Dave Cooke	Union of Concerned Scientists
Steven Douglas	Alliance for Automotive Innovation
Raquel Garcia	Southwest Detroit Environmental Vision
Michael Geller	Association of American Railroads
Megan Green	Mecklenburg County Government
Rich Kassel	Tri-State Transportation Campaign
Aaron Katzenstein	South Coast Air Quality Management District
George Lin	Caterpillar
Ellen Mantus	Health Effects Institute
Rachel Muncrief	International Council on Clean Transportation
Elaine O'Grady	Northeast States for Coordinated Air Use Management
Clay Pope	Capitol Access Partners
Tara Ramani	Texas A&M Transportation Institute
Michael Replogle	Institute for Transportation and Development Policy
Joanne Rotondi	Hogan Lovells
Matthew Rudnick	General Motors
Lubna Shoaib	East-West Gateway Council of Governments
Matthew Spears	Cummins Inc.
Kathryn Valdez	Xcel Energy
Erik White	National Association of Clean Air Agencies
Cynthia Williams	Ford Motor Company
Kate Zyla	Georgetown Climate Center
Other Attendees	
Yasmine Agelidis	
Noelle Baker	
Gabriela Baeza-Castaneda	
Felicia Barnes	
Morgan Bogdanski-Craanen	
Byron Bunker	
Daniel Ceglio	
Henry Cook	
Marc Corrigan	
Corey Davis	
Keesha Esqueda	
Nadia Forougi	
Steve Fritz	
Shawn Gallagher	

Myria Garcia
Cecilia Garibay
Molly Greenberg
Gil Grodzinsky
Mary Cruz Gutierrez
John Harkins
Justin Hwang
Michael Johnson
Siddiq Khan
Nancy Kruger
Heather Kryczka
Mike Lee
Cullen Leggett
Maria Lennox
Beto Lugo Martinez
Adrian Martinez
Sarah Mattalian
Jessie Mroz
Brian Nelson
Olivia Prodin
Terry Riesen
Sarah Roberts
Bill Robertson
Arya Sasne
Mark Schrupp
Stephanie Searle
Amy Smith
Lauren Steele
Lesley Stobert
Ryleigh Wright