

**1. What are the steps MPART has taken to deal with PFAS contamination?**

Please refer to pages 7-11 for a partial list of MPART's actions.

**a. Does MPART have regulatory and/or enforcement authority?**

MPART does not have or exercise separate regulatory authority. All the existing regulatory authority for each individual state department is still intact and has been used when necessary. For example, the State (Michigan Department of Environmental Quality) filed a lawsuit, in cooperation with EPA, against a responsible party – Wolverine. The State has issued water violation notices against some military bases because of water run offs that exceed the PFAS surface water standards set by the Michigan Department of Environmental Quality.

**b. Does that impact the ability of MPART to be effective?**

No. The effectiveness of MPART is attributed to the structural management system established by Governor Rick Snyder through an Executive Directive issued on November 13, 2017. The Director of MPART is stationed within the Governor's office and has been authorized by the Governor to coordinate action taken on environmental, public health and public information fronts. The ten state departments forming the MPART team are tasked with enhancing cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS substances in Michigan and protecting public health.

**2. How does MPART work with local governments within the State of Michigan?**

MPART has prioritized communication with local units of government, legislative members, local public health, stakeholder and interest groups and individual residents. If a potential site of contamination within a community has been identified the MPART team schedules a briefing with community leaders to provide information and discuss planning and activities. Before testing private home wells MPART schedules a community meeting with residents. Local officials are always part of the planning and notification process for their residents. Michigan has undertaken the most extensive public water testing initiative in the nation. We are testing all public water systems, even small systems, as well as schools on private wells. We had one community, serving over 3,000 residents test 20 times higher than the EPA Lifetime Health Advisory Level for PFAS. We worked in complete partnership with the local government units to successfully eliminate the old contaminated source of water and connect to a new public water system.

**3. One of the issues we focused on with this hearing is what are the technical and economic barriers that States face with respect to responding to PFAS contamination.**

**a. Do you feel like MPART is better suited to deal with technical and economic barriers that face State government than states without such an organization?**

The existence of MPART as the coordinating structure for the State is a clear advantage. I feel strongly that other states would benefit from using this or a similar model. When technical issues are brought forward the MPART structure can quickly contribute to resolution or unified agreement and direction to resolve the issue. The regular communication of the state departments through MPART allows response planning at a pace not possible without the MPART structure.

Economics

Michigan Legislative support to investigate and mitigate PFAS contamination of drinking water has been good and this is partially because MPART has systematically informed the legislature of our status and progress. The legislature provided \$23 million in fiscal year 2018 for PFAS activities. However, responsible parties, including public and private sector entities, must provide resources to remediate PFAS contamination attributable to current or previous activities by those parties. The cost of remediation associated with DOD facilities (both currently operational and those previously subject to BRAC) must be borne by DOD as the responsible party. States and local communities have neither the resources nor the responsibility to remediate DOD contamination. All states need the cooperation of the DOD to clean-up contamination on military bases and in areas affected by PFAS migration off the bases.

**4. What do you think the Department of Defense should be doing to address PFAS contamination?**

The Department of Defense (DOD) should determine the cost of PFAS clean up on military bases and ask Congress to appropriate sufficient funds to complete that clean-up. The DOD should work cooperatively with states to determine the extent of contamination on and off bases. It should not take years to make these determinations. A time limit should be imposed. The DOD should acknowledge its part in contamination and stop looking for small insignificant contributions to contamination of an area. If the DOD is responsible for the majority of PFAS contamination, DOD should meet its responsibility to clean it up. States should not have to initiate legal action against the DOD to ensure clean-up of their drinking water and environment. DOD should take responsibility for more than

contaminated drinking water. If contamination from a military base has resulted in residents not being able to eat the fish or game in an area the DOD should take responsibility and provide remedy.

**a. Are they doing it willingly in Michigan?**

While testing results are sometimes slow from some National Guard bases in Michigan, the National Guard in general, is much more cooperative than the DOD is related to the Wurtsmith BRAC base in Oscoda MI. In general, the DOD is too slow in providing relief to residents in Michigan related to some bases.

**5. I count in your testimony about 60 local, state and federal level organizations that engaged with Michigan DEQ and your program.**

**a. Are other states paying attention to your leadership?**

Yes, we are in discussion with other states. We have formed national PFAS groups through our Department of Environmental Quality and they are holding discussions on their experiences. We are aware of another state that is adopting the MPART management structure to respond to contamination in their state and have been contacted by other states that seek to learn more about MPART and the Michigan approach.

**b. How do you work with other states that are attempting to address PFAS issues?**

We have traveled into several states to meet with teams of state people to discuss experiences in different areas. States are all at different stages when dealing with PFAS. Michigan is sharing its experiences and its protocols with any state who requests information.

**c. What lessons at this stage can you share for other states and localities to consider?**

States will need to deal with PFAS. Military bases, fire stations, private airports all have used PFAS and so the potential for contamination of drinking water and the environment exists in every state. Industrial contamination adds to the potential problems and is more important for some states. I would advise all states to proactively prepare and gather the information they need to deal with PFAS as a risk to public health. For those states that are further along I would advise them to partner with other states and share information.

**6. You mention in your testimony that we have significant knowledge about only a few of the PFAS chemicals. In your water quality surveys, are you able to delineate the specific PFAS chemicals?**

The State of Michigan tests for 24 different PFAS compounds. This does not mean we know everything about all 24. The EPA has a Lifetime Health Advisory on just two of these chemicals – PFOA and PFOS. The ATSDR report analyzed 14 PFAS chemicals but could only make recommendations on 4 because they lacked enough knowledge to address the other 10 it analyzed. We do need more research on the toxicology associated with specific PFAS chemicals commonly found in drinking water.

**a. Are most of the sites you found PFAS contaminated with chemicals for which the risk is well characterized?**

Risk is not well characterized for all PFAS chemicals and there are thousands of PFAS chemicals. Federal agencies have provided toxicological information on only a few of these substances. For example, we tested a school's drinking water and determined a specific PFAS chemical was present in unexpected amounts. State toxicologists researched this specific PFAS chemical and determined the level in the school's water was not a risk to public health. The school was advised of the determination. The state will look to set a regulatory standard for this chemical and others before the end of 2018. This specific chemical had enough existing research to allow us to make a determination of risk but not all PFAS chemicals have sufficient research as noted in the ATSDR draft report.

**b. What do you tell the public if the PFAS risks are not well characterized?**

We acknowledge what we do not know. We say that we hope more research will occur soon and when that does happen we will use that information to help guide the state's actions to protect public health. We continue to urge federal agencies to complete crucial research to help all communities understand risk, exposure pathways, health effects, and remediation methodologies. Uniform national understanding from federal agencies with scientific and research expertise is an important step as we develop a comprehensive national approach to deal with PFAS contamination.

**7. Some of the sites you identify were contaminated by private industry, and some by military, is that correct? Yes.**

**a. What has been your experience with DOD when it comes to addressing PFAS contamination, and is there more action you would like to see?**

This question was answered in question #4 above. I have repeated that answer below.

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**b. What has been your experience with EPA?**

EPA is a federal regulatory body that is reluctant to establish an MCL for PFAS chemicals, yet it issued a Lifetime Health Advisory. If it is important enough to issue a “warning” through a health advisory, then it should be important enough to set an enforceable standard.

EPA’s establishment of a national PFAS conference to hear from states and non-governmental entities was a positive step. It is important that EPA acknowledged this is a national issue and that they would provide leadership. The State hopes they fulfill the promises made in the PFAS conference earlier this year to consider setting an enforcement standard and take a more active role in addressing PFAS contamination nationwide.

Michigan has engaged the EPA and ATSDR as partners to address the PFAS issues in our state. We seek assistance from EPA in any way they can help us to protect our residents. EPA staff have participated with local responses within our state. It is our intent to continue to partner cooperatively with the EPA.

## **MICHIGAN'S PFAS ACTION PLAN (MPART)**

### **EXECUTIVE DIRECTIVE CREATES THE MICHIGAN PFAS ACTION RESPONSE TEAM**

Governor Rick Snyder formed the Michigan PFAS Action Response Team (MPART) on November 13, 2017. It is the first multi-agency action team of its kind in the nation. The ten state departments that form the core membership of the MPART, along with state employees, have joined together to investigate sources and locations of PFAS contamination in the state. They are tasked with ensuring a comprehensive, cohesive and timely response to the continued mitigation of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in the drinking water of our citizens across Michigan. The team is charged with enhancing cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS in Michigan. They have been authorized by the Governor to protect public health and ensure timely action is taken on all environmental, public health and public information fronts.

“To safeguard Michiganders from this emerging contaminant, it’s critical that responding agencies at all levels are effectively communicating and coordinating efforts,” Snyder said. “This team will be instrumental in establishing protocols and best practices that will allow all partners to comprehensively address these contaminants across Michigan.”

Governor Rick Snyder

Directive 2017-4 states that the Department of Environmental Quality (DEQ), the Department of Health and Human Services (DHHS), the Department of Military and Veteran Affairs (DMVA), and the Director of the Department of Agriculture and Rural Development (MDARD) are essential members of the team and all other departments are instructed to coordinate and cooperate with the MPART Team as requested. State Departments have actively engaged in full-filling the mission of the Executive Directive by forming cooperative relationships with EPA, ATSDR and Local Public Health Agencies and local units of government. Through MPART, Departments have expedited the assessment of PFAS contamination across the state, formulated investigation and response plans and, in general, moved rapidly to protect public health.

### **CHRONOLOGY OF THE PFAS ACTION PLAN AND ACTIONS TAKEN BY MPART**

- Executive Directive issued November 2017.
- MPART Director appointed November 2017.
- Michigan PFAS web site-initiated November 2017 to inform state residents of the State’s actions and to provide information about PFAS. [www.michigan.gov/pfasresponse](http://www.michigan.gov/pfasresponse)
- Working relationships were established with the federal EPA and Region V-EPA., as well at the Agency for Toxic Substances and Disease Registry (ATSDR).

- Director Grether and PFAS Director Carol Isaacs initiated outreach to EPA to help them understand the experience of Michigan in response to PFAS in drinking water.
- The Michigan State Legislature appropriated 23M dollars for the PFAS response at the end of 2017.
- In January 2018, MPART took swift action to set a new clean-up criterion for groundwater water of 70 parts per trillion for PFOS and PFOA combined. Michigan is one of a minority of states to establish clean-up standards for any PFAS compounds found in groundwater used for drinking. This standard mirrors the EPA Lifetime Advisory Level. This is also the level the Department of Defense recognizes as actionable.
- MPART has taken legal action against responsible parties like Wolverine Worldwide. The lawsuit was in conjunction with the EPA and allows the EPA and the MDEQ to work together to achieve environmental investigation for PFAS and other contaminants in soil, water, etc. The lawsuit's goal is to achieve immediate environmental testing and investigation and long-term remediation for West Michigan.
- Dispute Resolution was initiated with the US Airforce in Oscoda on 12/20/17. The State is seeking agreements from the Airforce that will result in remediation of contamination in the area off the base because of PFAS plumes attributed to the closed Air Force base. Negotiations have taken too long and comprehensive remediation efforts have not been agreed to by the Airforce. The State has helped negotiate an agreement between the City and the Airforce to establish a new water pump station within the City of Oscoda. The State has worked with the USDA, the legislature and the local unit of government and legislators to plan municipal hook-up of residents and this is progressing in stages as expected. The school system will be connected to municipal water this fall. The State has initiated a study of PFAS foam on Lake Van Etten. MPART has spoken to DoD representatives and Congressional members about Oscoda.
- A Local Health Department Advisory Committee was established to coordinate and exchange information between state and local health leadership on PFAS. This committee will elevate and address locally identified issues, concerns, and requests for assistance, ensure ongoing two-way communication within communities regarding state and federal agency activities: coordinate data sharing: and identify and jointly develop action plans related to community engagement, testing, remediation, and more, for PFAS contamination sites.

- A PFAS Science Board was established in March of 2018 to review current research on PFAS and make recommendations regarding health effects, environmental pathways, remediation, and whether other PFAS analytes, in addition to PFOA and PFOS, should be addressed.

The Michigan PFAS Scientific Advisory Board to MPART is being led by Dr. David Savitz of Brown University's School of Public Health and academic advisor to MPART. It will convene Michigan and national PFAS experts to review available science and make recommendations for Michigan's statewide response. The committee will coordinate and review medical and environmental PFAS research and develop evidence-based recommendations. The committee has been charged with completing their review and making recommendations by end of the fall, 2018. The panelists were selected based on their expertise in the areas of epidemiology, toxicology, water quality, biochemistry and molecular biology.

The state announced the names on Thursday, March 18, 2018.

- Jennifer Field of Oregon State University
  - Scott Bartell of the University of California, Irvine
  - Christopher Lau of the U.S. Environmental Protection Agency
  - Susan Masten of Michigan State University
  - Dan Jones of Michigan State University
  - David Savitz of Brown University will chair the panel
- The State has consulted with other states, helped organize states to address PFAS and urged convening the first national PFAS EPA summit, which was held May 2018. The invitation only conference included attendees from 36 states, Non-Governmental Organizations (NGOs), community groups, media and Native American Tribes. Director Isaacs and Director Grether received invitations and attended.
  - MPART has engaged approximately 70 external state and national groups on PFAS.
  - MPART has held many community forums for residents. Individual meetings with residents continue to be held to discuss drinking water testing results. Community leadership is regularly updated on the status of PFAS within communities.
  - MPART holds regular legislative meetings and conference phone calls to update the House and Senate. Michigan's legislature appropriated an additional \$23 million at the end of 2017 to allow MPART to investigate PFAS and improve lab capabilities.



- MPART has identified multiple PFAS state sites that are associated with historic and current industrial/manufacturing operations, AFFF (aqueous film-forming firefighting foam) discharges, landfills, and military installations. Thousands of water tests have been performed and hundreds of filters have been provided to households, along with alternate water supplies.
- MPART was provided \$1.5 million by the legislature for in-state laboratory improvements to speed up PFAS testing.
- MPART has met with more than 200 wastewater treatment plant personnel across the state to identify and work cooperatively toward the elimination of PFAS being discharged into water resources, such as our rivers.
- MPART has partnered with the landfill industry to develop standard sampling protocols to evaluate PFAS in landfill leachate statewide by December 2018. This effort will also evaluate how landfill design and operating practices affect the concentration of PFAS in leachate.
- MPART is overseeing the sampling of fish and deer for PFAS contamination in areas near known AFFF, or other releases.
- MPART has contacted 1,000 fire departments throughout the state to determine their use and storage of PFAS-containing firefighting foam and will be making best protocol recommendations when the survey is complete.
- Michigan has communicated with the Federal Aviation Administration (FAA), asking for their assistance in controlling use of PFAS firefighting foam used in practice and testing sessions because the foam can end up in ground water for drinking.
- MPART is piloting a first-of-its-kind project for the removal of PFAS containing foam from the surface of Van Etten Lake near the Wurtsmith Air base.
- Plainfield Township, through a State \$750,000 grant, has a granular activated carbon (GAC) pilot project underway with 5 filters capable of filtering 9 million gallons/day
- Ann Arbor is also engaged in a similar project and working with the University of Michigan.

- Importantly, MPART has undertaken the most comprehensive state drinking water survey in the nation. All public water systems are being tested through a \$1.7M appropriation from the legislature. This survey is testing all drinking water systems with more than 25 people served. The Legislature and Governor agreed to fund this initiative as part of a supplemental appropriation. 75% of Michigan's population is served by a public drinking water supply. Proactive public water supply testing will be complete by the December 2018.
  - 1,380 community water supplies (~1,100 on wells, 75 with intakes on the Great Lakes, ~200 purchase from another municipality)
  - 461 schools with their own wells (testing all wells used for consumption)
  - This public water testing program led to the quick and proactive MPART response which resulted in an additional 3,000 Michiganders in Parchment and 300 school children in Ottawa County being protected from contaminated drinking water.
  
- MPART is reviewing and studying biosolids used in agriculture when they are associated with PFAS contamination.
  
- The Michigan Department of Health and Human Services (MDHHS) continues to work with the Michigan Department of Environmental Quality (MDEQ) and all local public health offices to help evaluate PFAS testing results and explain those results to residents. Additionally, they have initiated the following projects.
  - MDHHS performed a Health Statistics Review of cancer incidents in North Kent Co., issued a report, and held a media round-table to explain the results. There were no specific PFAS findings.
  - MDHHS has worked with ATSDR, as a federal partner, to provide enhanced assistance in developing a PFAS exposure study in Kent Co. The protocol has been finalized. Blood samples will be collected and the DHHS lab is now able to run lab analysis on the samples to be taken. This assessment will determine if there was a higher than typical exposure of the population to PFAS and will later determine, through repeat blood sampling, future levels of PFAS within the blood of those in the study.
  - The Parchment area is also being assessed for a PFAS exposure study.
  - DHHS has also advocated for Wurtsmith Airforce base and surrounding area to be included as one of the study areas under DoD research money awarded in the federal budget last year.

- MDHHS is also working with NSF International, an independent public health and safety organization that certifies PFAS filter systems. Michigan wishes to assure the proper application of all filter systems to PFAS compounds.
- Michigan is now employing drones to determine water flow to better allow targeted testing for PFAS levels in surface waters