



Detroit Refinery - PFAS

There's been a lot of talk about PFAS, a family of chemicals that you might think came out of nowhere, judging by recent news reports. But PFAS, or per- and polyfluoroalkyl substances, have been around for decades and are found in household and industrial products including cleaning products, nonstick pans, stain-repellant fabrics and carpet, paints and polishes.



Marathon is committed to the safety of our employees and our community. That's why PFAS also can be found in our firefighting foam. We use this foam because it is the fastest and most effective way to put out a petroleum- or gasoline-based fire. Firefighting foam containing PFAS has also been used in training drills involving refinery employees and local firefighters. Many industrial facilities and airports use this foam for these reasons.

Recently, the Great Lakes Water Authority (GLWA) began requesting that all industrial operations whose wastewater contains PFAS chemicals above certain levels to prepare a Best Management Plan (BMP) to ensure the responsible and safe use of products containing PFAS.

After extensive sampling of wastewater and a thorough review of the use of firefighting foam at our facility, Marathon's Detroit Refinery presented GLWA with a BMP that has been reviewed, approved and incorporated into the refinery's wastewater permit by GLWA.

Marathon's BMP includes the following actions:

- By the end of 2019, the Detroit Refinery will have entirely converted to C6 firefighting foam, which does not contain two PFAS chemicals of primary concern – PFOA and PFOS.
- Going forward, annual firefighting exercises, which we conduct in order to be fully prepared in case of emergency, will be conducted with PFAS-free foam or no foam at all.

Groundwater sampling did identify PFOA and PFOS above applicable clean-up levels on the refinery site and possibly some adjacent properties. However, it is worth noting that there are

no drinking water wells (residential or otherwise) in the area. Working cooperatively with the Michigan Department of Environment, Great Lakes and Energy (EGLE) and GLWA, the Detroit Refinery is developing a comprehensive remediation program.

Firefighting foam containing PFAS continues to be the fastest way to contain a petroleum fire. The Detroit Refinery will continue to use this foam for emergency response until a safer option is available. We simply cannot risk the health and safety of our employees and neighbors or potentially greater environmental damage if a petroleum fire is allowed to burn for a prolonged period of time. The Detroit Refinery has an aggressive fire prevention program. Our goal is to prevent fires, but should an incident occur we are prepared to contain it as quickly and safely as possible.

Here is a map identifying each of the 65 known PFAS sites in the state of Michigan:

