Santa Susana Field Laboratory
Per- and polyfluoroalkyl substances (PFAS) Site Investigation

The widespread use of PFAS in many commercial, agricultural, consumer, and other common applications means continued investigation and study of their effects are needed. Although NASA's historical site uses did not indicate widespread use of PFAS-containing materials, NASA is committed to protecting human health and the environment in all activities. Although PFAS are currently not yet regulated, NASA has an agency-wide initiative to identify past uses and possible source locations of PFAS at NASA centers and associated facilities, including SSFL.

NASA conducted a site investigation and found some groundwater samples within six former operational areas exceeded EPA screening levels set for residential exposures to PFAS in tap (drinking) water. Most of the exceedances are minor, localized, and consistent with limited historical use of PFAS at SSFL. The groundwater beneath SSFL is not used for drinking water, and there is no evidence that PFAS are migrating in the groundwater beyond the SSFL property line. NASA will continue to closely monitor federal and state PFAS regulations and will implement regulatory requirements and protective measures as necessary.

What are PFAS?

PFAS is the umbrella term for a class of thousands of synthetic (man-made) chemicals. PFAS have been widely used since the 1950s in commercial products that repel water, stains, and oil, including non-stick cookware, outdoor clothing, adhesives, food packaging, fabrics, and carpets. They have also been used in industrial contexts for fire suppression, such as aqueous film-forming foam (AFFF) used at military bases and airfields. They are also found in some personal care products, including shampoo, dental floss, lotions, cleansers, and cosmetics. The characteristics that make PFAS compounds effective for so many uses also prevent them from breaking down naturally in the environment, and they may remain in air, soil, surface water, and groundwater. Due to their widespread use in everyday products over decades, PFAS are widespread in the environment.

Why is NASA investigating PFAS at SSFL?

NASA is taking a proactive approach to PFAS and is conducting a standardized, agency-wide investigation to identify possible past uses and potential source locations of PFAS at NASA facilities, including SSFL. NASA's investigation follows an iterative process where each step builds on the results of previous activities.

NASA's PFAS Investigation Process at SSFL

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Status of NASA's PFAS Investigation at SSFL

Preliminary Assessment

In 2021, NASA conducted a Preliminary Assessment (PA) for PFAS at SSFL. The objective of the PA is to document NASA's evaluation of areas of potential concern for the historical use, storage, and disposal of PFAS compounds within NASA-administered areas. NASA conducted a records review, site reconnaissance, and data evaluation. Although NASA's historical site uses did not indicate widespread use of PFAS-containing materials, the PA identified seven areas of potential concern recommended for investigation based on the potential for PFAS from plating, lubricants, and possible storage of AFFF during historical operations.

Site Investigation

NASA's Site Investigation found some groundwater samples within six former operational areas exceeded EPA screening levels set for residential exposures to PFAS in tap (drinking) water. Overall, most of the exceedances are minor and consistent with limited historical use of PFAS at SSFL. The groundwater beneath SSFL is not used for drinking water, and there is no evidence that PFAS are migrating in the groundwater beyond the SSFL property line.

Next Steps

Consistent with the agency-wide approach to PFAS, NASA will conduct additional groundwater sampling to further understand the nature and extent of PFAS in NASA-administered areas. NASA has shared the results of the Site Investigation with DTSC and is committed to working with the state as the supplemental investigation proceeds. NASA will continue to monitor the federal and state of California PFAS regulatory status and will implement regulatory requirements and protective measures as necessary.

For More Information Contact

Lori Manes
Community Outreach
NASA Santa Susana Field Laboratory
Phone: 818.806.8834
Email: lori.manes@nasa.gov

Visit the NASA SSFL website and subscribe to our E-list to receive updates at https://ssfl.msfc.nasa.gov

Regulatory Standards for PFAS

Currently, PFAS are classified as unregulated or "emerging" contaminants. As of October 2023, there are no federal regulatory standards or routine water quality testing requirements for PFAS, nor has the State of California established standards for PFAS. However, the regulatory landscape continues to evolve. In March 2023, the U.S. Environmental Protection Agency (EPA) announced proposed national primary drinking water MCLs for six PFAS: PFOA and PFOS as individual contaminants, and PFHxS, PFNA, PFBS, and GenX as a PFAS mixture. The regulation proposed by the U.S. EPA would require public water systems to monitor for these PFAS, notify the public of the levels of these PFAS, and reduce the levels of these PFAS in drinking water if they exceed the proposed MCLs. The proposed regulation does not require any action until it is finalized, which the EPA anticipates will occur in 2024. NASA's highest priority at SSFL is the protection of public health and the environment. NASA is closely monitoring the federal PFAS regulatory status and the regulatory status in California, and will respond as necessary.