



FOLKETINGET
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RIGSREVISIONEN

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The Ministry of Environment and the Ministry of Defence's effort to remediate PFAS contamination

1. Introduction and conclusion

1.1. Purpose and conclusion

1. This report concerns the Ministry of Environment and the Ministry of Defence's effort to remediate PFAS contamination. Rigsrevisionen initiated the study in June 2022. In pace with the identification of sites contaminated with PFAS, there has, since then, been much debate about PFAS.

2. The group of PFAS substances includes a minimum of 12,000 chemicals, of which many have been used to achieve a water- and oil-repellent effect or a flame-retardant effect, as in fire-fighting foam, for instance. PFAS substances have a long degradation time and are often referred to as "forever chemicals".

PFAS affects the environment and can pollute our drinking water and food and thus expose people to PFAS contamination, which can harm their health. Twenty-two PFAS substances are regulated and two groups of these regulated PFAS substances are banned. With a few exceptions, PFOS has been banned in the EU since 2008, and PFOA has been banned in the EU since 2020. Thus, PFOS has been under regulation for the longest time, and a couple of sections in the report therefore has particular focus on this PFAS substance.

3. The effort to remediate PFAS contamination is regulated by laws that concern the limitation of use and discharge, monitoring and management of pollution. The area is governed by EU law as well as national legislation.

The Ministry of Environment is responsible for ensuring compliance with EU law and national legislation on the marketing, application, discharge monitoring and management of regulated PFAS substances. The Ministry of Environment monitors regulated PFAS substances in products and the occurrence of PFAS in the environment and sets threshold limits. It is also the responsibility of the Ministry of Environment to ensure compliance with the regulations governing the import of hazardous waste, including PFOS, to Denmark.

Discharge of PFAS from fire-fighting foam, waste and industrial discharge water are all known sources of PFAS pollution but there may be other sources. When we initiated the study, the attention of the environmental authorities was on sites used for fire training. The Ministry of Defence has used large amounts of fire-fighting foam at its fire training sites at air fields for many years. Against that background, we decided that the study should include the effort made by the Ministry of Defence to limit the discharge of PFAS from fire training sites.

4. The purpose of the study is to assess whether the Ministry of Environment and the Ministry of Defence have made a satisfactory effort to remediate PFAS contamination in the years 2007 to 2021.

- Has the effort made by the Ministry of Environment to check for PFAS and the effort made by the Ministry of Defence to limit the use and discharge of PFAS been satisfactory?
- Has the effort made by the Ministry of Environment to monitor PFAS and the effort made by the Ministry of Defence to manage PFAS pollution been satisfactory?



Main conclusion

The effort made by the Ministry of Environment and the Ministry of Defence to remediate PFAS contamination has been very unsatisfactory in the years 2007 to 2021. In several areas, the effort made by the ministries has been slow and ineffective, and, as a result, the environment and people's health may have been exposed to unnecessary risk.

The effort made by the Ministry of Environment to monitor PFAS and the effort made by the Ministry of the Defence to limit the use and discharge of PFAS have been very unsatisfactory

The Ministry of Environment has not monitored PFOS until seven years after a general ban on the PFOS substances took effect and has not monitored PFOS substances in fire-fighting foam until ten years after the ban on using PFOS was introduced. The ministry has not based its monitoring of PFOS substances on documented risk assessments. Additionally, the Danish Environmental Protection Agency has not imposed requirements on monitoring the discharge of PFAS from waste depots that, in Denmark, are categorized as highly polluting industries.

The study found clear indications that the Ministry of Defence had a storage of fire-fighting foams with PFOS 11 years after the substance was banned and had used fire-fighting foams with PFOS three years after it was banned. The Ministry of Defence has the required permits to discharge wastewater from fire training sites in five out of 47 areas but cannot provide documentation of its permission to discharge wastewater from the remaining 42 fire training sites.

The Ministry of Defence has informed Rigsrevisionen that all facilities under the ministry that are storing fire-fighting foam are now systematically inspected to determine whether fire-fighting foam containing PFOS and PFOA is still in stock and, if so, have the foam destructed. The Ministry of Defence has also informed Rigsrevisionen that it is in the process of ensuring that it has the required statutory wastewater permits.

The effort made by the Ministry of Environment to monitor PFAS and the effort made by the Ministry of Defence to manage pollution with PFAS have been very unsatisfactory

The Ministry of Environment has not used the mechanisms available under the law to ensure adequate monitoring of PFAS in drinking water, surface water and wastewater.

Rigsrevisionen's data analysis shows that seven out of 3,038 waterworks at some time in 2022 exceeded the threshold limit for PFAS and that 772 waterworks failed to test for PFAS in the years 2015 to 2021. Furthermore, the analysis indicated PFAS pollution above the current threshold limits at 524 locations with drinking water of particular interest to the water supply in Denmark. During the period under review, the threshold limits were tightened regularly, which means that several of the current incidents of pollution were previously not characterized as such.

The Ministry of Defence has not informed the municipal environmental authorities about PFAS pollution in areas owned by the ministry upon detection. The municipalities were, on average, informed of incidents of PFAS pollution approx. 11 months after the ministry had completed a report on the incident. The Ministry of Defence informed tenants of land owned by the ministry about the risk of PFAS pollution several years after detecting the pollution at the leased land. The tenants were informed of the incidents of pollution approx. four years after the ministry had completed a report on the incident. The Ministry of Defence has since 2012 identified 28 out of 82 fire training sites as carrying a risk of PFAS pollution.

The Ministry of Defence has informed Rigsrevisionen that it has prioritized voluntary investigations of pollution at the fire training sites where the ministry considers the risk of PFAS pollution to be the highest. So far, 46 of the 82 fire training sites fall into this category.

Rigsrevisionen's data analysis shows that 20 of the Ministry of Defence's 29 fire training sites polluted with PFAS are located in areas with drinking water of particular interest to the water supply in Denmark, and 18 are located within a radius of 250 meters from a farm.