Partnership on PFAS-test center at former Korsør Fire Academy

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Guidelines for PFAS contaminated water for development projects at the PFAS-test center at former Korsør Fire Academy

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This guideline provides instructions to development project owners on access to PFAS contaminated water and the possibility of discharging process water to the on-site permanent treatment plant.

1. ON-SITE MANAGEMENT OF PFAS CONTAMINATED WATER

On-site drain and rainwater are collected in four on-site buffer tanks that have a total buffer volume of approximately 130 m^3. In addition, upper groundwater collected immediately downstream of the site via 200 m of drainage pipe, located at the meadow, is collected in a separate buffer tank with a volume of approximately 18 m^3. This to prevent PFAS from further spreading to the surroundings.
Water collected in all five buffer tanks is fed to the on-site permanent treatment plant, which is controlled by an algorithm that considers the weather forecast for precipitation. The treatment plant has a maximum capacity of 2 m^3/h. Info on the permanent treatment plant is available via the webpage of the PFAS-test center: www.miljoeogressourcer.dk/testsite/11.

It is essential that development project owners, who wish to sample the buffer tanks and/or discharge water to the permanent treatment plant, are in dialog with the plant owner, ULTRAAQUA, prior to the activity. This is to incorporate the planned activities into the controlling algorithm and to maintain a high performance of the permanent treatment plant. Contact information to ULTRAAQUA will be shared by the contact person of the PFAS-test center.

2. BATCH SAMPLING OF PFAS CONTAMINATED WATER

Up to 1 m^3 of drain and rainwater, collected in the four on-site buffer tanks, can be sampled for use in development projects. This just has to be announced to the contact person of the PFAS-test center.

It generally is possible to sample volumes exceeding 1 m^3 of drain and rainwater, e.g. using a tank truck. However, this requires coordination with the plant owner. Please be aware, that in dry periods, these buffer tanks may run empty.

Tapped batches of PFAS contaminated water, which are transported elsewhere for off-site testing, is not accepted for return. The project owner is responsible for management of this PFAS contaminated water.

3. CONTINOUS FLOW OF PFAS CONTAMINATED WATER FOR TESTING

Development projects can connect to the buffer tank, which collect upper groundwater at the meadow, to obtain a continuous flow of PFAS contaminated water for testing. An anticipated flow rate is approximately 0.25 m^3/h, while a higher flow possibly can be obtained in the wet season.

For project owners who wish to discharge this continuous flow of PFAS contaminated water, post testing, to the permanent treatment plant, see section 4.

4. DISCHARGE OF PROCESS WATER TO ON-SITE TREATMENT PLANT

Two overall scenarios appear for the origin of water to be discharged to the on-site permanent treatment plant:

i) PFAS contaminated water formed at the PFAS-test center is used for testing and subsequently discharged. Typical flow rates < 0.4 m^3/h.
ii) Tap water is contaminated during the test procedure and subsequently discharged. Potentially high flow rates.

Due to limitations in capacity of the on-site permanent treatment plant, a maximum of 12 m^3/day can be discharged to the on-site drain system. However, this must be coordinated with the plant owner and restrictions apply to scenario 4,i and 4,ii:

a) PFAS $\sum_{22}$[1] must not exceed the on-site dissolved level of approximately 30,000 ng/l, i.e. a concentrate must be treated elsewhere for which the project owner is responsible.
b) Additives must be declared to and approved of by the plant owner. NB! Declaration of additives to the PFAS-test center partnership should be covered in the project application. The PFAS-test centre must be updated if any changes occur to the project activities.
c) The project owner must provide water analyses of content of suspended solids < 300 mg/l and conductivity < 250 mS/m to the plant owner prior to discharge.

5. ECONOMIC CONDITIONS

To ensure a smooth operation of the on-site permanent treatment plant, the plant owner must be kept updated on circumstances described in Section 2-4. In this way, the plant owner can adjust the process algorithm accordingly.

Since the plant owner is a technology vendor and thereby not as such an allied in the PFAS-test center, the plant owner must be economically compensated for their time spend on necessary adaptions occasioned by development projects. The time needed will vary depending on the task (sampling vs. discharge) and origin of discharged water (see Section 4,i-ii), wherefore two economical models apply:

1) The PFAS-test center covers the expense (the time consumption is a maximum of 2 hours). This applies to development projects, which intent to:
    a. sample the buffer tanks for PFAS contaminated water incl. a continuous flow,
    b. discharge PFAS contaminated water of type i) cf. Section 4.
2) The development project owner covers the expense per time spent by the plant owner to handle type ii) PFAS contaminated water, which may differ significantly in PFAS composition and/or imply a high flow rate.

The hourly rate charged by the plant owner for scenario 5,1 and 5,2 is DKK 875 excl. VAT (base year 2024). The hourly rate is index regulated annually.

[1] PFAS $\sum_{22}$: PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA (perfluortridecansyre), PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFNS, PFDS, PFUnDS, PFDoDS, PFTrDS, PFOSA, 6:2 FTS.