Guidance Document
Fire Protection Systems
TIC Scheme K21045
Specific Certification Program 10
Cleaning fire protection systems from PFAS-foam

Approved by the Board of Experts Fire Safety

February 13th, 2025

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Progress

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2 Introduction

This Guidance & Interpretation document for the international standards for Inspection & Certification of Fire Protection Systems has been accepted by the Board of Experts Fire Safety (BoE FS), in which all relevant parties in the field of Fire Safety are represented. The Board of Experts also supervises the activities and where necessary requires this scope to be revised and additional interpretation is needed.

This interpretation document has been drafted to set two goals:

- To give **G**uidance in the context for the design, installation and operation of Fire Protection Systems and is marked with the letter “G”;
- To give additional or alternative **R**equirements on matters not clear defined in the standards or where the standards have not yet addressed the issue or development and is marked with the letter “R”.

Version	About	Date
1	First setup of the document – not published	2024/10/10
2	Update of items - published	2025/02/13

Table 1

This document is specially developed for specific certification program 10 - Cleaning of Foam Systems in context with PFAS.

This is now a separate document, but I can be incorporated later in the general Guidance & Interpretation document for TIC – scheme K21045.

3 Frequenty asked questions SCP10 “G”

1. Shall cleaning according to the document SCP10 – K21045 become mandatory?

The SCP is not a mandatory guideline. There are options to make it mandatory, for example by including it in legislation or permits. But until decided otherwise, it is not mandatory.

2. Is it clear that executing the process in document SCP10 – K21045 is not the same as the compliance scope in context with POP, REACH or other regulations?

Yes, that is clear. The document SCP10 – K21045 arranges a safe, risk-resistant, cost-effective and high-quality cleaning process; one does not automatically comply with all laws and regulations.

3. Can my fire protection system be certified according to the document SCP10 – K21045?

The document SCP10 – K21045 enables certification of the cleaning organisation, who then arranges that the extinguishing system is cleaned in a safe, risk-resistant, cost-effective and high-quality manner. This with supervision of Kiwa based on audits and inspections.

4. How is the risk of rebound (recontamination by possible residual PFAS residues) dealt with?

In principle, this is up to the competent authority. The document SCP10 – K21045 assumes cleaning to below the concentration standards set by ECHA. At the moment, there is little to say about the risk of rebound, because hardly any statistic or scientific research has been done on this. The object of the SCP is to use best effort and -practices principles.

5. What maximum permitted PFAS values are used and why?

PFAS legislation is a regulation from the European Commission. The EU regulations determine the maximum permitted PFAS values. These values apply to the entire European Union. The document SCP10 – K21045 is in line with these values.

6. Is the document SCP10 – K21045 a static document?

The document SCP10 – K21045 is operated and maintained by Kiwa FSS, which can certify organizations that want to perform cleaning processes in accordance with the document SCP10 – K21045. KIWA and organisations from the advisory committee have agreed to periodically evaluate the document SCP10 – K21045.

7. What is the scope for cleaning and what parts of the extinguishing system are cleaned?

The document SCP10 – K21045 provides a scope to assess this per extinguishing system, parts of systems that have not or only very limitedly come into contact with PFAS can be left out of cleaning. In case study no. 1 is this set in a broader perspective.

Case study 1: Threat of having components in Fire Protection system contaminated with PFAS.

Not all components of a fire protection system have the same time of contact with a foam containing PFAS. Therefore is risk based assessment a tool to define the need for this. Based on the function of the component, the likelihood can be assessed. Based on this likelihood, the impact of contamination can be determined.

Likelihood	Low	Common	High
System part			
Tank			Normally filled
Pump		After use flushed with water #	
Mixer / injector		After use flushed with water #	
Pipe	After use flushed with water #		
Valve	After use flushed with water #		
Spray head	After use flushed with water #		

Table 2 - # use in context with inspection(s), testing and maintenance.

Based on the above likelihood assumption is the following classification possible.

- Contamination likelihood low has an indication for non-cleaning.
- Contamination likelihood common has an indication for cleaning.
- Contamination likelihood high has an need for cleaning.

Case study 2: Threat using industrial water of a plant contaminated with PFAS.

Not all plants make use of drinking water for fire protection systems. It can also make use of surface water or ground water. The likelihood of this water being contaminated with PFAS varies.

After cleaning a fire protection system from PFAS, it is to be advised to check regularly these background PFAS levels of this water to have proper damage- and pollution assessment after a repressive action of the fire protection system.

Case study 3: Threat of a repressive action of the fire protection system in an environment contaminated with PFAS.

Industrial plants can be situated on a sites with a background PFAS level in ground and ground water higher then is specified in the ECHA requirements.

After cleaning a fire protection system from PFAS, it is to be advised to check regularly these background PFAS levels to have proper damage- and pollution assessment after a repressive action of the fire protection system.

Case study 4: Recycling of steel contaminated with PFAS.

Case study 1 sets a direction for cleaning. In situations whereby the need for cleaning is defined, but the internal environment demonstrates that cleaning to execute and that levels are hard to achieve whereby the effect of rebound is to be expected, can the question be to replace the steel components. Before making this decision with (third) parties should the possibility of the recycling of the steel to be examined and the environmental impact of this recycling. This can lead to different perspective of the situation and an adjustment of the decision.