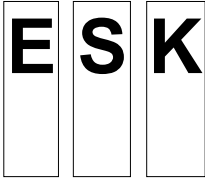


Note:
This is a translation of the ESK document entitled
“Erläuterungen der Entsorgungskommission
Anwendung der ESK-Leitlinien für die Konditionierung von radioaktiven Abfällen mit vernachlässigbarer
Wärmeentwicklung”
In case of discrepancies between the English translation and the German original, the original shall prevail.



Explanatory note of the Nuclear Waste Management Commission

Application of the ESK guidelines for the conditioning of radioactive waste with negligible heat generation

Based on the ongoing discussions following the publication of the ESK recommendation of 10 December 2020 “*Guidelines for the conditioning of radioactive waste with negligible heat generation*”, the Nuclear Waste Management Commission (ESK) sees the need for further clarification regarding their application.

The guidelines cover the conditioning of waste with negligible heat generation and are generally to be applied. In this context, conditioning refers to the treatment of waste to produce qualified waste forms and their packaging with the objective of storage and disposal.

The objective for the operation of conditioning facilities is the production of waste packages suitable for storage and disposal. In doing so, the fundamental safety functions according to Chapter 1.2 of the guidelines are to be complied with. This is verified by the nuclear regulatory authorities.

The guidelines distinguish between

- autonomous conditioning facilities,
- mobile conditioning facilities, and
- stationary conditioning facilities.

Autonomous conditioning facilities are self-contained systems for processing radioactive raw waste, which may have been pre-treated, into waste forms or for carrying out individual process steps within the scope of conditioning in independent buildings. These autonomous conditioning facilities have their own licence and are subject to the supervisory procedure by the competent authority. This category includes, for example, external conditioning facilities or residue treatment centres.

Mobile conditioning facilities are self-contained systems with defined interfaces to the nuclear installations or facilities in which they are operated. Mobile conditioning facilities are used for processing radioactive raw waste, which may have been pre-treated, into waste forms or for carrying out individual process steps within

the scope of conditioning. They are installed specifically for the respective conditioning campaign in a nuclear installation or facility and removed again at the end of the campaign. These mobile conditioning facilities usually have a licence pursuant to § 12 of the Radiation Protection Act (StrlSchG). This licence covers the facility-specific, i.e. non-site-specific aspects for the operation of the mobile conditioning facility. If this conditioning facility is used in an existing nuclear installation or facility, the interfaces to the mobile facility are examined within the regulatory procedure for the existing nuclear installation or facility. This category includes, for example, mobile facilities for drying or concreting.

Stationary conditioning facilities are self-contained systems with defined interfaces to a licensed nuclear installation or facility. The stationary conditioning facility is used for processing radioactive raw waste, which may have been pre-treated, into waste forms or for carrying out individual process steps within the scope of conditioning. It is permanently installed in a nuclear installation or facility. Within the scope of the existing licence for nuclear installations or facilities, the stationary conditioning facility is also considered. Its operation is part of the existing licence. This category includes, for example, stationary high-efficiency compactors or stationary facilities for concreting.

The type of waste to be conditioned in a conditioning facility of the above-mentioned categories and the conditioning method applied in each case are decisive for the necessary measures to be taken with regard to compliance with the fundamental safety functions. For a specific conditioning facility, the necessary boundary conditions can thus be determined taking into account the activity inventory to be processed (“graded approach”).

The measures for compliance with the fundamental safety functions are thus always carried out in line with (and application of) the conditioning guidelines, although the scope of the measures to be taken depends on the type of waste to be conditioned in each case. This also includes additional measures that are not directly part of the conditioning facility. An example of this are additional facilities for the purpose of spatial separation (tents and lightweight halls).

For the use of temporary tents or lightweight halls in nuclear installations for conditioning, which recently has repeatedly been the case, there is a need for further explanations regarding the application of the guidelines.

For the use of tents or lightweight halls that only serve to spatially separate individual conditioning facilities (e.g. concreting), the safety-related requirements result from the licensing of the entire nuclear installation or facility and are thus reviewed in the respective regulatory procedures.

Therefore, tents and/or lightweight halls that only serve to spatially separate individual conditioning facilities (e.g. concreting) are not subject to the design requirements of the guidelines.