

Safety Standards

of the
Nuclear Safety Standards Commission (KTA)

KTA 1301.2 (2022-11)

**Radiation Protection Considerations for Plant Personnel
in the Design and Operation of Nuclear Power Plants
Part 2: Operation**

(Berücksichtigung des Strahlenschutzes der Arbeitskräfte
bei Auslegung und Betrieb von Kernkraftwerken
Teil 2: Betrieb)

The previous version of this safety standard
was issued in 1982-06, 1989-06, 2008-11 and 2014-11

If there is any doubt regarding the information contained in this translation, the German wording shall apply.

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KTA SAFETY STANDARD

2022-11

Radiation Protection Considerations for Plant Personnel in the Design and Operation of Nuclear Power Plants Part 2: Operation

KTA 1301.2

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1989-06 (BAnz. No. 158a of August 24, 1989)
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PLEASE NOTE: Only the original German version of this safety standard represents the joint resolution of the 35-member Nuclear Safety Standards Commission (Kerntechnischer Ausschuss, KTA). The German version was made public in the Federal Gazette (Bundesanzeiger) on July 25, 2023. Copies of the German versions of the KTA safety standards may be mail-ordered through the Wolters Kluwer Deutschland GmbH (info@wolterskluwer.de). Downloads of the English translations are available at the KTA website (<http://www.kta-gs.de>).

All questions regarding this English translation should please be directed to the KTA office:

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Comments by the Editor:

Taking into account the meaning and usage of auxiliary verbs in the German language, in this translation the following agreements are effective:

shall	indicates a mandatory requirement,
shall basically	is used in the case of mandatory requirements to which specific exceptions (and only those!) are permitted. It is a requirement of the KTA that these exceptions - other than those in the case of shall normally - are specified in the text of the safety standard,
shall normally	indicates a requirement to which exceptions are allowed. However, exceptions used shall be substantiated during the licensing procedure,
should	indicates a recommendation or an example of good practice,
may	indicates an acceptable or permissible method within the scope of this safety standard.

Basic Principles

(1) The safety standards of the Nuclear Safety Standards Commission (KTA) have the task of specifying those safety-related requirements which shall be met with regard to precautions to be taken in accordance with the state of science and technology against damage arising from the construction and operation of the plant (Sec. 7, para. (2), subpara. (3) Atomic Energy Act - AtG) in order to attain the protective goals specified in the AtG, the Radiation Protection Act (StrlSchG) and the Radiation Protection Ordinance (StrlSchV) as well as further detailed in the Safety Requirements for Nuclear Power Plants (SiAnf) and the Interpretations of the SiAnf.

(2) The safety standards of the series KTA 1301 specify protective-goal-oriented requirements for the design of nuclear power plants and to the administrative and technical measures that are considered to be necessarily implemented for the protection of personnel employed in the nuclear power plant from any exposure, and they specify requirements for the workplace and work environment design and for the organization of the work procedure. In this regard, special attention is paid to Sec. 8 StrlSchG.

The safety standard series KTA 1301 consists of two parts:

Part 1: Design

Part 2: Operation

1 Scope

This safety standard applies to the specification of radiation protection measures with respect to the personnel working in the nuclear power plant. The safety standard deals with the measures required for work activities performed during specified normal operation of the nuclear power plant and during modification tasks and also deals with the planning of measures in regard to design basis accidents and emergencies (cf. definitions. Sec. 1 (18) StrlSchV and Sec. 5 (26) StrlSchG).

2 Definitions

Radiation protection personnel

Radiation protection personnel comprises those persons commissioned to perform radiation protection tasks by order and under direction of the radiation protection commissioner.

3 Radiation Protection Organization

3.1 Organizational Structure

(1) The organizational structure within the nuclear power plant as implemented by the radiation protection supervisor shall normally consider

- the radiation protection commissioner of the nuclear power plant and his representatives,
- if necessary, any further radiation protection commissioners with a limited range of authority,
- the radiation protection personnel, including contract personnel permanently or temporarily commissioned with radiation protection tasks, who are involved in planning, implementing, performing or supervising measures for the protection of the personnel from the effects of ionizing radiation.

(2) The tasks, plant-internal ranges of authorization and competence of the radiation protection commissioners and their representatives in accordance with Paragraph 1, items a) and b) shall be specified in writing and such that they are mutually distinguished from each other.

(3) The radiation protection commissioner of the nuclear power plant shall have such a position within the plant organization that he is at all times permitted to order the interruption of any work activities if this is required for the protection of personnel from the dangers of ionizing radiation, provided however, no serious safety-related reasons stand against this interruption.

(4) The radiation protection commissioner, his representatives and the radiation protection personnel shall be positioned within the plant organization such that they are basically independent of production and maintenance. It is permitted to appoint, e.g., the shift supervisor as a radiation protection commissioner with a limited range of authority in order to, especially, implement and perform the measures in accordance with Secs. 107 and 108 StrlSchV.

3.2 Tasks and Authorizations

3.2.1 Radiation protection supervisor

(1) The radiation protection supervisor shall attend to his tasks and responsibility in full accordance with the Radiation Protection Act (StrlSchG) and the Radiation Protection Ordinance (StrlSchV). He shall establish suitable protection measures which ensure that the radiation protection principles and basic duties in accordance with Secs. 8 and 9 StrlSchV and the regulations specified in Sec. 72 StrlSchG and Sec. 43 StrlSchV are observed.

(2) The radiation protection supervisor shall issue corresponding directives by which the radiation protection commissioner is ensured a direct reporting access to himself and to the director of the power plant.

(3) The radiation protection supervisor shall ensure that the director of the power plant informs the radiation protection commissioner of any planned changes to the construction or operation of the plant as well as of any planned maintenance measures and that his information is performed sufficiently ahead in time that the concerns of radiation protection can be taken into consideration.

(4) The radiation protection supervisor shall ensure that sufficient financial means and suitable personnel in sufficient number are available for radiation protection.

(5) The radiation protection supervisor shall ensure that the procedures regarding radiation protection (e.g., education and training, procedural organization, measures for preventing inadvertent dispersion of radioactive substances) can be continually improved by applying the method of cyclical management.

Note:

Requirements regarding 'Management systems for the operation of nuclear facilities' are being specified in the safety standard project KTA 1402.

3.2.2 Radiation protection commissioner

(1) The radiation protection commissioner shall attend to his duties and responsibilities within the plant-internal range of authority in accordance with the Radiation Protection Act (StrlSchG) and the Radiation Protection Ordinance (StrlSchV) that was assigned to him in writing by the radiation protection supervisor.

Note:

In the following, the radiation protection officer is named, but the responsibility remains with the radiation protection supervisor.

(2) It is permissible that the radiation protection commissioner assigns qualified persons with the performance of tasks that arise from his duties in accordance with Sec. 72, para. 2 StrlSchG and Sec. 43 StrlSchV. It is up to him to decide what