

Radiation and Nuclear Safety Authority Regulation on the Site for a Nuclear Facility

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In accordance with the decision of the Radiation and Nuclear Safety Authority, the following is ordered pursuant to Section x, Subsection x of the Nuclear Energy Act (xx/yyyy):

1 § Scope of application

SYT-5968 – This regulation sets out the requirements regarding the siting of nuclear facilities.

2 § General site requirements

SYT-5966 – When assessing the suitability of a site, it shall be ensured that the nuclear facility and the safety functions and structures required for it can be built at the site in accordance with the requirements of the Nuclear Energy Act.

SYT-6003 – When siting nuclear facilities, consideration should be given to any existing socially significant functions in the area that could be affected by an accident at the nuclear facility.

3 § Considering the precautionary action zone when selecting the location

SYT-5967 – The definition of the precautionary action zone for nuclear facilities is set out in Section 65 of the Nuclear Energy Act and in Section 6 of the Radiation and Nuclear Safety Authority's Regulation on Emergency Arrangements of Nuclear Facilities. When selecting a site for a nuclear facility, the extent of the necessary precautionary action zone shall be assessed and the feasibility of the measures required within the precautionary action zone in the event of an accident shall be considered.

4 § Determining the characteristics of the site and assessing its suitability

SYT-5998 – When determining the characteristics of the site of a nuclear facility and assessing its suitability, the local conditions affecting the safety of the nuclear facility shall be identified. The following shall be taken into account when determining the characteristics of the site and assessing its suitability:

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1. the nature of the activities of the nuclear facilities planned for the site in terms of nuclear energy production, nuclear fuel management, and nuclear waste management;
2. the potential impact of the planned nuclear facilities, existing nuclear facilities at the site, and related activities;
3. the feasibility of emergency, security and transport arrangements;
4. the characteristics of the immediate environment of the site.

SYT-6004 – The scope and level of detail of the investigation and assessment of the site characteristics shall be proportionate to the nuclear facility and the resulting risks.

5 § Assessment of external events

SYT-6007 – Any external events that could endanger the safety of a nuclear facility at the site shall be identified, and their potential occurrence shall be assessed as thoroughly as practically possible. The assessment shall consider both interdependent and independent events that could occur simultaneously.

SYT-6006 – An external event may be excluded from the assessment if it is not considered to pose a threat to the safety of the nuclear facility or if it is deemed highly unlikely to occur.

Any decision not to conduct an assessment shall be based on conservative assumptions.

SYT-6005 – When determining site characteristics and assessing external events, consideration shall be given to geology, weather conditions, floods, earthquakes and the potential impact of accidents in the vicinity of the facility, and other environmental or human-related factors, as well as developments resulting from climate change and other foreseeable or anticipated developments.

SYT-5971 – The scope of the assessment of external events shall be justified.

6 § Methods for assessing external events

SYT-5976 - Both deterministic and probabilistic methods shall be used to assess external events. The assessment shall take into account scientific and technological developments and use available relevant information.

SYT-6271 - If practicable, the assessment should determine the relationship between the

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magnitude, duration and frequency of occurrence of the event. Where possible, the maximum magnitude and duration of the event under assessment shall be determined as comprehensively as possible.

SYT-5974 – Any methods that are used shall be justified, and any associated uncertainties shall be taken into account.

7 § Design basis based on site characteristics

SYT-5984 – Site-specific design basis and values shall be defined for external events. Their determination shall be made conservatively, taking into account the magnitude and frequency of external events. When determining site-specific design values, uncertainties shall be taken into account appropriately.

SYT-5981 – When determining design values, the estimated probability of seismic phenomena exceeding the median confidence level 10^{-5} at the plant site in one year shall be taken into account. At minimum, when determining the design values for other external events, phenomena with an estimated probability of exceedance at the plant site of greater than 10^{-4} during one year shall be taken into account.

SYT-5982 – The design values shall allow for sufficient margin with respect to the extreme values measured at the site and in its vicinity.

SYT-5979 – When determining the events to be considered as design extension conditions (DEC A3) in the design of a nuclear facility, phenomena occurring at a frequency of approximately 10^{-7} per year shall be taken into account.

8 § Feasibility of security arrangements at the site of the facility

SYT-5980 – The police shall determine the prerequisites for an official response and the response time to the site.

SYT-5977 – The conditions for establishing a movement and stay restriction area, as well as a possible no-fly zone, shall be determined.

SYT-5978 – When assessing site characteristics, the possibility of responding to

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information security incidents shall be evaluated in a timely manner.

9 § Feasibility of emergency arrangements at plant site

SYT-5993 – The emergency arrangements that are essential for site selection of a nuclear facility are set out in Sections 170 and 171(3) of the Nuclear Energy Act, as well as in the Radiation and Nuclear Safety Authority's Regulation on Emergency Response Arrangements for Nuclear Facilities. When selecting the site, the feasibility of emergency arrangements shall be taken into account.

10 § Expertise and quality management

SYT-5989 – The determination and assessment of site characteristics shall be carried out in a planned, comprehensive, systematic and traceable manner. The quality assurance arrangements shall be proportionate to the characteristics of the site, and their impacts as well as to the assessment of suitability.

SYT-5990 – In order to identify and assess the site characteristics and safety, the organisation and responsibilities of the work shall be defined, as well as the expertise required for the tasks. Moreover, inspection, testing, verification and validation tasks shall be defined.

SYT-5988 – The results of studies and investigations shall be documented in such a way that their scope and reliability can be assessed independently.

An independent assessment shall be carried out in relation to new phenomena or events that affect safety, or where the results of analyses or research differ significantly from each other.

11 § Quality plan

SYT-5987 – The site's characteristics shall be established, its design basis defined, and it shall be assessed in accordance with the quality plan created for the activity in question. A management system may be used instead of a quality plan if it meets the requirements set out for the quality plan.

SYT-5985 – The quality plan shall be prepared early enough to provide comprehensive

guidance for site investigations.

SYT-5994 – The quality plan shall:

1. describe the quality criteria set for the activities;
2. cover the organisation, personnel competence, qualification requirements, planning, work supervision, quality assurance and documentation, taking into account the different stages of site assessment;
3. include appropriate quality assurance arrangements for any activities that could affect the determination of characteristics and the establishment of site-specific design basis.

12 § Preparatory work at plant site

SYT-5997 – Any preparatory work carried out at the site shall be planned and executed in a way that facilitates the identification and preservation of site characteristics.

SYT-5995 – When planning preparatory work, information about the site and the placement of the necessary facilities at the site shall be taken into account.

13 § Maintaining of knowledge and expertise regarding the characteristics of the plant site and external events

SYT-6009 – Information on the characteristics of the site and any external events shall be kept up to date throughout the nuclear facility's lifetime. In order to assess the impact of changes in the environment, the characteristics of the site and the frequency of external events shall be monitored and measured where necessary.

SYT-6008 – The expertise required to determine the characteristics of the site and assess its suitability shall be maintained throughout the lifetime of the nuclear facility.

14 § Entry into force and transitional provisions

This order shall come into force on X/X/20XX and shall remain in force until further notice.

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