Unofficial Translation from Finnish.
Legally binding only in Finnish and Swedish.

REGULATION STUK Y/3/2020

Radiation and Nuclear Safety Authority's Regulation on Security in the Use of Nuclear Energy

Adopted in Helsinki on 29.12.2020

In accordance with the Radiation and Nuclear Safety Authority's decision, the following is decreed by virtue of Section 7 q(1)(22) of the Nuclear Energy Act (990/1987) as laid down in Act (964/2020):

Chapter 1
Scope of application and definitions

Section 1 Scope of application

1. This regulation applies to security arrangements in the use of nuclear energy. The regulation provides for requirements applicable to a licensee concerning the implementation of security arrangements.

2. The regulation applies to a nuclear facility at different points of its life cycle and to the transportation of nuclear material and nuclear waste related to the operations of a nuclear facility. The regulation is applied to other use of nuclear energy as follows:

1) subsections 2 (3 and 4); 3; 4 (1, 6 and 7); 5 (1 and 2); 6 (1, 6 and 7); 7 (2–3 and 5–6); 12 (1, 2 and 3); 13 and 16 of the regulation are applied to mining and ore enrichment activities the purpose of which is the production of uranium or thorium;
2) subsections 2 (3 and 4); 3; 4 (1, 6 and 7); 5 (1); 6 (1, 6 and 7); 7 (5 and 6); 12 (1, 2 and 3); 13 and 16 of the regulation are applied to the possession, manufacture, production, transfer, handling, use, storage, transportation and import of nuclear material when the use of nuclear energy does not take place in a nuclear facility;
3) subsections 2 (3 and 4); 3; 4 (1, 6 and 7); 5 (1); 6 (1, 6 and 7); 7 (5 and 6); 12 (1, 2 and 3); 13 and 16 of the regulation are applied to the possession, manufacture, production, transfer, handling, use, storage, transportation, export and import of nuclear waste when the use of nuclear energy does not take place in a nuclear facility;
4) subsections 2 (3 and 4); 3 (1); 4 (1, 6 and 7); 5 (1); 6 (1); 7 (6); 12 (1 and 2); 13 and 16 of the regulation are applied to the use of nuclear energy taking place under Section 2(1)(5) of the Nuclear Energy Act.

3. Security arrangements include physical protection and information/cyber security.

Section 2 Definitions

1. For the purposes of this regulation:

STUK
SÄTEILYTURVAKESKUS
STRÅLSÄKERHETSCENTRALEN
RADIATION AND NUCLEAR SAFETY AUTHORITY
Osoite / Address| Laippatie 4, FI-00880 Helsinki
Postiosoite / Postal address| PL / P.O. Box 14, FI-00811 Helsinki, FINLAND
Puh. / Tel. (09) 759 881, +358 9 759 881 | Fax (09) 759 88 500, +358 9 759 88 500 | www.stuk.fi

1) *risk analysis* shall refer to examinations, performed using systematic measures, in order to 1) identify threats, problems and vulnerabilities, 2) identify the reasons for them, and 3) assess and classify the consequences and related risks of undesirable situations;

2) *security zone* shall refer to the area defined for the implementation of security arrangements at a nuclear facility;

3) *threat* shall refer to a situation in which unlawful or other deliberate, negligent or otherwise unauthorised activity endangering nuclear or radiation safety directed towards the use of nuclear energy, a nuclear facility, nuclear material or nuclear waste is ascertained, or reason to suspect such is found; the threat may also be against a person;

4) *dangerous object* shall refer to such an object, copy of an object or substance that may endanger or can be used to endanger the use of nuclear energy, the safety of a person at a location where nuclear energy is used, or the safety of persons participating in the treatment and transport of nuclear material or nuclear waste;

5) *common-cause failure* shall refer to the failure of several systems, structures or components of a nuclear facility, simultaneously or within a short period of time, as a consequence of an individual event or cause.

Chapter 2
Basis of security

Section 3 General planning criteria for security arrangements

1. The planning of security arrangements shall be based on the design basis threat, the risk analyses of the activity to be secured, and the protection requirements assessed on the basis thereof.

2. Security shall be consistent with the operation, fire safety and emergency response arrangements of nuclear energy. The objectives of nuclear safeguards and coordination of the arrangements shall be taken into account in the planning and implementation of security arrangements.

3. Furthermore, security arrangements shall be consistent with the special situational, emergency and rescue plans drawn up by the authorities.

4. Section 146 of the Nuclear Energy Decree (161/1988) contains provisions regarding the definition of the design basis threat and the threat from unlawful activity towards the use of nuclear energy.

Section 4 General planning of the use of nuclear energy

1. Systems, structures and components important to safety as well as the storage locations of nuclear material and nuclear waste shall be designed to facilitate the appropriate implementation of security, taking into account the requirements for nuclear and radiation safety.

2. Security shall be based on the utilisation of security zones placed within each other so that systems, structures and components important to safety, and nuclear material and nuclear waste, are protected based on their safety significance and access control and the control of goods traffic can be arranged appropriately.

3. The basis for setting security zones shall be the significance of the zone in terms of nuclear or radiation safety or the appropriate implementation of security arrangements.

4. The security zones shall constitute appropriate security arrangements against activity endangering nuclear or radiation safety. The security zones shall have arrangements in place to enable the detection of threats.

5. Appropriate information/cyber security principles shall be used in the design and maintenance of systems and components. Appropriate methods and related plans shall be in place for detecting and preventing unauthorised action targeted towards systems and components that are important to safety and information/cyber security deviations, as well as for limiting their detrimental consequences.

6. In the use of nuclear energy, preparations shall be made for managing abnormal situations arising from information/cyber security threats.

7. In the use of nuclear energy, processes shall be in place to maintain and develop security arrangements in order to ensure their quality and conformity.

8. For the purpose of communication under a threat, arrangements shall be made through which the security personnel can securely communicate with each other and the authorities in the entire area of the nuclear facility and during transports of nuclear material or nuclear waste.

Section 5 Internal threats

1. Measures for preventing threats caused by persons shall be implemented systematically and extended to the subcontractors utilised by the licensee, and persons in the employ thereof, to the extent necessary. The work tasks and access rights and data-related rights of use of persons working at a nuclear facility and participating in the treatment and transport of nuclear material and nuclear waste shall be defined and their necessity shall be assessed regularly.

2. With regard to a nuclear facility and an area where activity referred to in Section 2(1)(2) of the Nuclear Energy Act is carried out, the access rights of the persons working there and their participation in transports of nuclear material or nuclear waste shall be determined and the necessity of the access rights shall be assessed regularly. The identification card that grants access rights shall be kept visible in the area and during transport.

Section 6 Implementation of security arrangements, and maintenance of security

1. All documents concerning security arrangements shall be kept up to date.

2. The effectiveness of security arrangements may not be significantly reduced by any failure or malfunction of a single security system, structure or component. It shall be possible to take

care of security arrangements in the event of any common cause failures at a nuclear facility or other occurrences of similar scope.

3. Annual exercises shall be organised to practice the procedures laid down in the security plan and in the nuclear facility's security standing order under a threat. The exercises shall include scenarios laid down in the design basis threat.

4. The licensee shall demonstrate the effectiveness of the security arrangements against threats. To demonstrate their effectiveness, exercises and other appropriate means of demonstration shall be used.

5. At a nuclear facility, exercises shall be regularly organised with the relevant authorities.

6. The personnel participating in the use of nuclear energy shall be familiarised with the security arrangements and the procedures contributing to their implementation.

7. Information/cyber security shall be monitored with appropriate procedures to detect, prevent and analyse abnormal events and to control their consequences.

Chapter 3
Security control

Section 7 Control of personnel and goods traffic

1. Security arrangements shall be planned and implemented at a nuclear facility to prevent threats related to visits. Aspects relevant to safety arrangements shall be taken into consideration when planning visits and programmes thereof.

2. The identity of persons visiting a nuclear facility and an area where activity referred to in Section 2(1)(2) of the Nuclear Energy Act is carried out, and of those participating in the transport of nuclear material or nuclear waste, shall be ascertained. Visit-related security control shall utilise the appropriate control equipment and up-to-date technology suitable for the purpose, in the use of which the security personnel and other persons responsible for implementing security arrangements have been trained.

3. Movement at a nuclear facility and in an area where activity referred to in Section 2(1)(2) of the Nuclear Energy Act is carried out shall be restricted and supervised according to the purpose of the visit.

4. All vehicles and persons and the goods, objects and materials carried by them as well as the goods transport equipment shall be checked no later than at the boundary of the plant area in order to ensure that no dangerous objects are brought into the nuclear facility without permission. Movement at the nuclear facility shall be restricted and controlled so that the aspects relevant from the perspective of security arrangements and safety can be taken into consideration appropriately.

5. Access control and the control of goods traffic shall be arranged even in connection with the transport of nuclear material and nuclear waste and any related storage.

6. In the use of nuclear energy, systematic procedures to the extent necessary shall be in place for the detection and prevention of unauthorised removal of nuclear materials, nuclear waste, other radioactive substances and confidential information.

Chapter 4
Nuclear Security Officers and preparation for threats

Section 8 Qualification requirements for nuclear security officers

1. The licensee shall ascertain that the nuclear security officers are familiar with the information required by their role:

1) the security standing order and the principles and instructions concerning the activities of the nuclear security officers;

2) the leading operational principles and the functions to be secured within the facility;

3) the operational special situation, emergency and rescue plans;

4) any other operating instructions required making it possible for the nuclear security officer to perform his or her duties correctly and safely.

Section 9 Special requirements related to the use of force and use of force equipment

1. The security standing order of a nuclear facility sets forth the requirements concerning the basic training and the specialist training for the members of the nuclear security officers that carry use of force equipment or whose duties require being prepared to use such means or equipment in the face of a threat. The security standing order of a nuclear facility includes provisions on the levels of instructor and user training required by the basic training and the specialist training mentioned above, as well as on demonstrating the required skills and monitoring thereof.

2. The nuclear security officers of a nuclear facility may only have in their use of force equipment which complies with the security standing order, possessed by the licensee or security services supplier.

3. Section 7 t of the Nuclear Energy Act contains provisions on the right of nuclear security officers to use force.

Section 10 Central Alarm Station

1. A nuclear facility shall have a central alarm station for the purposes of security arrangements, and a stand-by alarm station. Both shall be capable of maintaining redundant and secure communication with the police, the nuclear facility's command centre and the nuclear facility's control room. The stand-by station shall be separated from the central alarm station by means of distance or structural solutions, preventing the simultaneous loss of both stations due to the same external or internal reason. The central alarm station or the stand-by centre shall be manned by at least one person responsible for alerting functions.

2. In connection with the transport or storage of nuclear material or nuclear waste, alerting communications and arrangements shall be implemented in the manner required for the protection of the transport or storage.

Section 11 Command centre and leadership

1. A person in charge of leading the security arrangements shall always be appointed at a nuclear facility and in the transports of nuclear material related to the facility's operations. The person in charge of the operational leadership of nuclear security officers shall always be present at a nuclear facility and in the transports of nuclear material related to the facility's operations. A command centre equipped for threats and a stand-by command centre shall be in place. Both shall be capable of maintaining redundant and secure communication with the police, the nuclear facility's alarm station and the nuclear facility's control room. The stand-by command centre shall be separated from the command centre by means of distance or structural solutions, preventing the simultaneous loss of both centres due to the same external or internal reason.

2. A nuclear facility shall have a designated and appropriately equipped room for use by the police in commanding operations to prevent threats targeting the nuclear facility.

3. At a nuclear power plant, the same person may not be simultaneously responsible for the operational management of security arrangements and alarm functions.

Chapter 5
Threats

Section 12 Actions to be taken when under threat

1. During a threat, such remedial action as may be necessary shall be taken.

2. Information on the threat and its progress shall be submitted to the police as far as possible before they arrive at the scene.

3. The licensee shall specify who will lead the measures to be taken against the threat once the threat has been detected. Section 7 n of the Nuclear Energy Act contains provisions concerning the transfer of leadership responsibility for security arrangements to the police under a threat.

4. The licensee shall appoint a sufficient number of persons with expertise in nuclear safety, radiation safety and security arrangements to assist the police. The licensee shall take care of the matters related to nuclear safety and radiation safety at a nuclear facility.

Section 13 Notifying the Radiation and Nuclear Safety Authority (STUK)

1. The Radiation and Nuclear Safety Authority (STUK) shall be notified without delay when a threat has been detected. The licensee shall ensure that the Radiation and Nuclear Safety Authority (STUK) is kept informed of the threat and its progress, even in cases where the person in charge of leading the security arrangements is committed to activities aimed at preventing the realisation of the threat.

Chapter 6
Miscellaneous provisions

Section 14 Drafting of plans

1. The licensee shall provide the police authority with the opportunity to participate in the preparation of security arrangement plans and measures related to threats.

2. Systematic procedures shall be in place at a nuclear facility and in the transports of nuclear material or nuclear waste related to the facility's activities in order to retrieve lost or stolen nuclear material or nuclear waste and to limit any damaging radiological consequences.

Section 15 Marking the movement and stay restriction area of a nuclear facility, and the nuclear security officer's uniform

1. Any sign or strip marking the movement and stay restriction area of a nuclear facility and the text in it shall be clearly discernible and noticeable. The area shall be demarcated according to Appendix 1 of the regulation.

2. The markings and texts of the nuclear security officer's uniform shall be clearly discernible and noticeable according to Appendix 1 of the regulation.

3. The nuclear security officer's uniform and the markings and texts used therein shall not confusingly resemble the uniforms and markings worn by authorities referred to in Section 7 m of the Nuclear Energy Act.

Section 16 Obligation to observe confidentiality and secrecy

1. Section 78 of the Nuclear Energy Act provides for the obligation to observe confidentiality and secrecy related to the use of nuclear energy, and Sections 9 and 34 of the Private Security Services Act (1085/2015) provide for the obligation to observe confidentiality and secrecy applicable to nuclear security officers and guards.

Chapter 7
Entry into force and transitional provisions

Section 17 Entry into force

1. This regulation shall enter into force on 29 December 2020 and shall remain valid until further notice.

2. This regulation repeals the Radiation and Nuclear Safety Authority's Regulation on Security in the Use of Nuclear Energy (STUK Y/3/2016).

3. This regulation shall be applied to any matters which are pending upon the entry into force of this regulation.

Section 18 Transitional provision

1. The markings currently used to indicate the movement and stay restriction area of a licensee's nuclear facility and the markings used in the nuclear security officer's uniform may remain in use until 31 December 2021.

Adopted in Helsinki 29 December 2020

Director General Petteri Tiippana

Director Kirsi Alm-Lytz

Availability of the regulation, guidance and advice

This regulation has been published as part of the regulations issued by the Radiation and Nuclear Safety Authority (STUK) and it is available from the Radiation and Nuclear Safety Authority.

Visiting address: Laippatie 4, FI-00880 Helsinki
Mailing address: P.O. Box 14, FI-00811 Helsinki
Telephone: +358 9 759 881
Collection of regulations: http://www.finlex.fi/en/viranomaiset/normi/555001/

APPENDICES

Appendix 1
Uniform of nuclear security officer, and marking the movement and stay restriction area of a nuclear facility

Appendix 1 Uniform of nuclear security officer, and marking the movement and stay restriction area of a nuclear facility

L101 To mark the movement and stay restriction area of a nuclear power plant, a sign compliant with figure 1 or a strip that meets the same content and colour requirements shall be used.

Ydinvoimalaitosalue
Kärnkraftverksområde
Nuclear Power Plant Site Area

Pääsy ilman lupaa kielletty rangaistuksen uhalla
Tillträde förbjudet vid laga påföljd
Restricted Access, violators will be prosecuted

Poliisilaki (872/2011) 9 luku 8 §, Sisäministeriön asetus (x/x)
Polislag (872/2011) kap 9, 8 §, Inrikesministeriet förordning (x/x)
Police Act (872/2011) Chapter 9, Section 8, Ministry of the Interior Decree (x/x)

Figure 1. A sign indicating the movement and stay restriction area of a nuclear power plant

L102. To mark the movement and stay restriction area of a nuclear facility, a sign compliant with figure 2 or a strip that meets the same content and colour requirements shall be used.

Ydinlaitosalue
Kärnverksområde
Nuclear Facility Area

Pääsy ilman lupaa kielletty rangaistuksen uhalla
Tillträde förbjudet vid laga påföljd
Restricted Access, violators will be prosecuted

Poliisilaki (872/2011) 9 luku 8 §, Sisäministeriön asetus (x/x)
Polislag (872/2011) kap 9, 8 §, Inrikesministeriet förordning (x/x)
Police Act (872/2011) Chapter 9, Section 8, Ministry of the Interior Decree (x/x)

Figure 2. A sign indicating the movement and stay restriction area of a nuclear facility

L103. On the left side of the front of the nuclear security officer's uniform, a marking compliant with figure 3 shall be added to the clothing items presented in Table 1. The letters shall be at least 6mm in height.

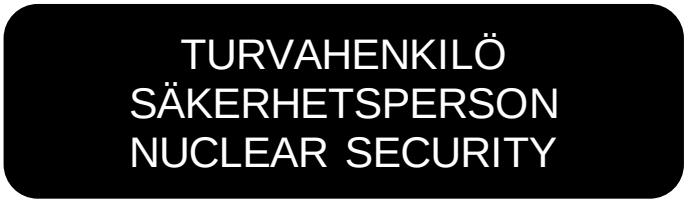

Figure 3. Marking on the front of the nuclear security officer's uniform

L104. On the back of the nuclear security officer's uniform and the protective vest worn on top of it, and on the front of the protective shield, a marking compliant with figure 4 shall be added to the clothing items and protective equipment presented in Table 1. The letters shall be at least 40mm in height.

Figure 4. Marking on the back of the nuclear security officer's uniform and protective vest worn on top of it, and on the front of the protective shield

L105. The front or sides of the headgear belonging to the nuclear security officer's uniform shall be equipped with a marking compliant with figure 5 with regard to the clothing items and protective equipment presented in Table 1. The letters in the text must be at least 8mm in height.

Figure 5. Marking in the headgear belonging to the nuclear security officer's uniform

L106. Table 1 presents the markings to be added to the clothing items belonging to the nuclear security officer's uniform

Table 1. Nuclear Security officer's uniform and the markings to be added to its clothing items and protective equipment

UNIFORM/CLOTHING ITEM	**MARKINGS FOR NUCLEAR SECURITY OFFICER**	
Overall	Front	Back
Coat	Front	Back
Safety clothing	Front	Back
Shirt	Front	
Headgear (including helmet)	Front/sides	
Protective vest worn on top of the outfit	Front	Back
Protective shield	Front side	