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III. OTHER PROVISIONS

NUCLEAR SAFETY COUNCIL

8514 *Instruction number IS-41, of 26th July 2016, of the Nuclear Safety Council by which the requirements on physical protection of radioactive sources are approved.*

Nowadays, radioactive sources are thoroughly used with authorisation in Medicine, Industry, Agriculture, Research and Education, having many undeniable benefits for society. However, due to its nature, the possession and use of radioactive sources must be carried out according to strict safety and radiation protection requirements to avoid or at least reduce the possibility of accidental errors or accidents, meaning unintentional events.

There is a growing national and international concern about the possibility of having people or groups, either organised or not, that could use radioactive sources to intentionally cause damage to the workers, the public or the rest of the citizens and the environment through inappropriate exposure to ionising radiation.

In relation to this, the safety requirements of radioactive sources must include physical protection in order to avoid, prevent, detect, slow down and respond to the malicious acts that could be carried out on purpose by using radioactive sources.

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Such malicious acts can be classified into two main types: radiological sabotage and theft, robbery and unauthorised withdrawal of radioactive sources. This Instruction explains the requirements which are mainly directed towards the protection of sources against the second type of malicious acts. It is considered that once the radioactive sources are protected against theft or unauthorised withdrawal, they will also be protected against acts of sabotage.

Article 2(f) of the Law 15/1980, of 22nd April, by which the Spanish Nuclear Safety Council was created, attributes to this Public Entity the power “to cooperate with the competent authorities in order to develop the necessary criteria that must be followed by the off-site emergency and physical protection plans of nuclear and radioactive facilities and by the transportations, and once said plans are drawn up, the CSN has the faculty to approve them”.

The Royal Decree 1308/2011, of 26th September, on physical protection of nuclear facilities, nuclear materials and radioactive sources, establishes a physical protection system for nuclear facilities, nuclear materials and radioactive sources within Spanish territory or under Spanish jurisdiction in order to:

- a) Provide protection against theft, robbery or any other illegal withdrawal of nuclear material and radioactive sources during its usage, storage or transportation.
- b) Guarantee that the correct measures are applied to localise and, when required, recover nuclear material or radioactive sources that have been lost or stolen.
- c) Protect nuclear facilities, nuclear materials and radioactive sources against sabotage or any other illegal action that could have potential radiological consequences, or damage or disrupt the normal operation of the facilities.
- d) Mitigate or minimize the radiological consequences of sabotage.

The sole transitional provision of such Royal Decree establishes that: “the Nuclear Safety Council shall issue safety instructions about physical protection of radioactive sources as stated in this Royal Decree”.

This Instruction outlines the general and specific requirements that, according to the Nuclear Safety Council, must be met by the physical protection systems for radioactive sources of 1st, 2nd and 3rd categories in order to achieve the overall objectives of protection that are set out in Article 32 of this Royal Decree. It also mentions the careful management practices that must be applied to the holders of radioactive sources that do not reach the 3rd category, but which are above the exemption limits.

According to the aforementioned and the legal powers provided by Article 2(a) of the Law 15/1980, of 22nd April, by which the Spanish Nuclear Safety Council was created, after consultation with the affected sectors and with the agreement of other concerned authorities and after the consideration of the required technical reports,

the CSN in its Council meeting of July 26th 2016, has decided the following:

First. *Subject matter and scope of application.*

1. The subject matter of this Instruction is:

a) To describe the requirements that must be complied the physical protection systems of radioactive sources of 1st, 2nd and 3rd categories in order to achieve the general protection goals which are specified in Article 32 of the Royal Decree 1308/2011, of 26th September.

b) To describe the physical protection requirements for the shipment of radioactive sources.

c) To describe the careful management practices that must be considered by the licensees who are authorised to operate radioactive facilities with radioactive sources that are not of the 1st, 2nd and 3rd categories but are above the exemption limits in order to reasonably guarantee the physical protection of such facilities. 2. This Instruction will not be applicable to radioactive sources which are not included in Articles 3.2 a) and 3.2 b) of the Royal Decree 1308/2011, nor to any form of transportation.

3. This Instruction will also not be applicable to radioactive sources that are located in protected areas protected of nuclear power plants, fuel assembly manufacturing facilities and the temporary storage facility (ATC).

4. This Instruction is directed towards the licensees of radioactive facilities and other authorised activities that involve radioactive sources.

5. In case of exceptional events which may suddenly increase the perceived threat level of the radioactive sources included in the scope of this Instruction, and in compliance with Article 44 of the Royal Decree 1308/2011, of 26th September, the Nuclear Safety Council may demand the licensees of said sources to implement additional and urgent physical protection measures without prejudice the competences of the Ministry of Internal Affairs or Autonomous Communities.

Second. *Definitions.*

The terms used in this Instruction are defined in:
The Royal Decree 1308/2011, of 26th September, on physical protection of facilities, nuclear materials and radioactive sources.

The Royal Decree 229/2006, of February 24th, on the control of high-activity sealed radioactive sources and orphan sources.

The Royal Decree 1836/1999, of 3rd December, which approved the Regulation on Nuclear and Radioactive Facilities.

The Nuclear Safety Council's Instruction IS-18, of 2nd April, on the criteria that the CSN follows to demand the licensees of the radioactive facilities to report events and radiological incidents.

Moreover, the following terms are defined hereby:

Factor D: specific activity of the radionuclides in a source that if not kept under control could have serious deterministic effects to health in different hypothetical situations.

Barrier: a fence, a wall or other obstacle that delays access and tahtcomplement the access control.

Shipping: movement of mobile units, radioactive devices or transportation containers with radioactive sources from the facility to another location where they will be used and vice versa.

Third. *Basic functions of the radioactive sources protection system.*

All radioactive sources protection systems against malicious acts must carry out the following basic functions: deterrence, detection, delay, response and security management, which are briefly explained hereby:

A. Deterrence function.

1. Deterrence consists in discouraging or reducing the motivation of a potential enemy to carry out a malicious act.

2. Deterrence can be achieved by applying a set of physical protection measures that would make the enemy feel overwhelmed by the difficulty of the operation. The chances of success would be too low and the risk too high.

3. The efficiency of the deterrence measures cannot be assessed. Therefore, any physical protection system should not be based solely on this part. However, a solid and strong physical protection system often plays an undeniable deterrent role.

B. Detection function.

1. Detection consists in finding out any move of a potential enemy against the radioactive sources as soon as possible, such as:

a) The attempt to access or unauthorized attempt on the location where radioactive sources are produced, manipulated, used or stored or on its surroundings.

b) The attempt or unauthorised withdrawal of radioactive sources from the location where they have been shipped to or from the facilities where they are produced, manipulated, used or stored.

2. Detection can be achieved by the installation of devices or electronic systems, recruitment of private security staff, creation of accounting books, official sealing, etc.

3. In all events, detection must always be followed by an alert, whereby an immediate assessment of the alarms is carried out in order to:

a) Determine if the alarm is a false alarm or improper alarm caused by an incident or a circumstance not related whatsoever to the enemy's actions.

b) In case of a real or proper alarm, obtain information about who is carrying out said action, how many people are involved, where and by what means.

4. Detection can also be implemented or complemented by establishing access control systems or measures for people and materials to allow access to authorised people and to identify and detect any attempt of unauthorized access.

5. In case of using electronic devices to detect intrusion, the assessment must be carried out through permanent surveillance with close-circuit television (CCTV). The CCTV images and signals from the detection systems are received and analysed by the security staff located in the alarm station. This station could be part of the facility or be in a remote location in order to fulfil the requirements of regulations on private security state.

6. Any proper alarm that has been assessed will be immediately notified to:

a) The security department staff or the security service of the facility in order to stop, when possible, the enemy until the arrival and deployment of the relevant response forces.

b) The relevant response forces to provide all required and relevant information to assess the threat.

C. Delay function.

1. This function is aimed at slowing down, obstructing and holding back the advance of the enemy towards the target, giving (the security department staff or the security service of the facility and/or the relevant response forces) time to intervene and delay or completely stop the enemy's action.

2. Delay is usually implemented through the installation of physical barriers, locks, safe boxes, bars, etc.

3. For the delay to be effective, it must always be preceded by the detection of the action of the enemy and its proper assessment.

D. Response function.

1. The response has different goals depending on the risk inherent to the source:

a) The detection, neutralisation of the enemy or allowing said enemy to escape before reaching the target.

b) The recovery a posteriori of the source outside the facility and its return in safety conditions as soon as possible.

2. The response function must be implemented by response teams with the required number of professionals, properly trained, qualified and equipped for the accomplishment of the goals mentioned before.

3. For those cases when the response teams are not permanently available in the facility, it is assumed that there is a higher risk of withdrawal of the radioactive sources and for this reason, the response must be directed towards the second aim: to recover the source and to put it back in safety conditions as soon as possible.

4. The delay function is vital in providing enough time for the response team outside the facility to equip themselves, set out and arrive at the facility before the enemy reaches the target.

5. Previous coordination and cooperation among the licensee, the private security staff and the response forces are essential to guarantee the effectiveness of the response.

E. Security management.

The physical protection system of radioactive sources must additionally have at least one of the following elements:

1. A security organization that is properly directed, well-integrated and coordinated with other departments of the facility, and with a clear definition and

understanding of the roles, and documentation explaining the tasks and responsibilities related to the physical protection of radioactive sources.

2. A Security Plan that is carefully made and maintained, which describes the scope and necessary extent of the physical protection system, the factors that affect said protection and other relevant and complementary information.

3. A set of operational and maintenance procedures as part of the physical protection system.

4. A documented process to establish access authorisations to radioactive sources by the staff of the licensee's organisation or external organizations and to establish criteria for the granting, suspension or revocation of authorisations for such personnel based on the need of that people to access the facility to perform their functions.

5. A training plan that guarantees that the staff is properly trained and capable in the field of physical protection from radioactive sources.

6. A correct accounting of the radioactive sources produced, processed, used and stored in the facility, as well as its frequent checking process at regular intervals through the use of inventories.

7. A documented process to protect and limit access to documents or information related to the physical protection of radioactive sources.

8. A documented process to promptly and fully notify the competent authorities of any event or incident related to the physical protection of radioactive sources, loss or theft of a radioactive source, etc.

9. A set of contingency procedures that establish a framework for the allocation of responsibilities and actions that must be taken in situations that pose a risk, a threat or an attack against radioactive sources and to deal with the temporary loss of the ability of the physical protection system against failures, breakdowns or unexpected performances of any of its components.

Fourth. Aims of physical protection of the radioactive sources of 1st, 2nd and 3rd categories.

Article 32 of the Royal Decree 1308/2011, of 26th September, establishes the aims of the physical protection systems for the radioactive sources of 1st, 2nd and 3rd categories.

Article 24.2 of this Royal Decree establishes that physical protection of radioactive sources with lower activity than the 3rd category sources, for each one of its radionuclides is related to Table III of Annex II, but which are over the exemption limits specified in the Regulations on Nuclear and Radioactive Facilities and in the

Instruction IS-05, of 26th February 2003, of the Nuclear Safety Council, for the same radionuclides must be guaranteed by prudent management practices cited in this Instruction.

Fifth. General requirements for the physical protection of the radioactive sources of 1st, 2nd and 3rd categories.

1. The licensee for one or more radioactive sources is responsible for their physical protection and must classify them in a mutually exclusive way in one of the radioactive sources categories specified in the Royal Decree 1308/2011, of 26th September, according to the procedure outlined in Annex II.

2. The licensee is responsible for the design, development, implementation, maintenance and updating of the physical protection system of the radioactive sources and the physical protection measures that make this system possible.

3. The specific physical protection measures to be implemented will depend on the individual characteristics of the facility. Therefore, the protection requirements described in this Instruction will be adapted to these characteristics, and different alternatives may be adopted in cases when it can be justified that together they represent an equivalent or superior level of protection to the one obtained by applying these requirements.

4. The measures already adopted to guarantee the operational safety of the handling and management of the sources and the radiological protection of workers and the public may complement and even replace specific physical protection measures that would be implemented, as long as their adaptation and operation on the physical protection of sources is in accordance with the general and specific requirements described in this Instruction.

5. The licensee must have a Security Plan for their radioactive sources in accordance with the requirements of Article 11 about the Content of the Security Plan of this Instruction. This document must be part of the documentation required and submitted to obtain the operating license.

6. The operating licensee of a facility where radioactive sources within 1st, 2nd and 3rd categories are produced, processed, used or stored is responsible for:

a) Identifying within their organization a direct responsible for the physical protection of radioactive sources, with the authority and adequate training to make decisions in normal operations and when facing contingency situations.

b) Establishing a security department, headed by a Chief Security Officer authorised by the Ministry of Internal Affairs or by the competent department of the Autonomous Communities' in compliance with the Royal Decree 1308/2011, Article

6 paragraph 4 and with the current laws and regulations on Private Security and Public Security, when any of the following circumstances appear:

i) In the facility, one or more sources of 1st category are produced, handled, processed or used. Facilities with blood irradiators or irradiators for research and education purposes have the right to ask to be exempt from establishing a security department.

ii) In the different sections of the facility, ten or more sources of 2nd category are produced, handled, processed or used.

iii) When it is decided by the Ministry of Internal Affairs or the competent department in the Autonomous Community, in collaboration with the Nuclear Safety Council.

7. The licensee must establish and keep an accountability system for the radioactive source that must be properly documented in procedures, inventories and accounting records, by following the provisions of the Royal Decree 229/2006, of 24th February.

8. As part of the Security Plan, the licensee shall develop, implement and maintain a series of contingency response procedures to formalise the actions to be taken when facing incidents related to the physical protection of sources such as:

- . a) The suspicion or threat of a malicious act against radioactive sources.
- . b) Demonstrations or riots that could pose a risk to the physical protection of said sources.
- . c) The trespassing of unauthorised personnel on the location of the source or its surroundings.
- . d) The failure or unavailability of components and equipments in the system of physical protection of radioactive sources.

9. As part of the Security Plan, the licensee shall implement incident notification procedures to the competent authorities listed in Article 10 of the Royal Decree 1308/2011, of 26th September. Among the incidents to notify there are:

- a) The suspicion or unauthorised withdrawal of a radioactive source in a facility.
- b) Non-authorised access to the facility or area where radioactive sources are used

c) The threat or actual finding of explosive devices inside the facility or in its surroundings.

d) Loss of control over a radioactive source.

e) Non-authorised access or use of a radioactive source.

10. As part of the Security Plan and in accordance with the Instruction IS-18, of 2nd April 2008, of the Nuclear Safety Council, the licensee shall also have incident notification procedures such as:

a) Discrepancy with the accounting data of radioactive sources.

b) Failure or loss of control of one or more security systems required to guarantee the physical protection of the sources.

11. In the radioactive facilities where radioactive sources of different categories are produced, processed, used or stored, the physical protection system must meet the requirements prescribed for the most dangerous category source. That is, if in a radioactive facility there are several radioactive sources of 1st, 2nd and 3rd categories for example, then the physical protection system must meet the requirements prescribed for the physical protection of 1st category sources.

12. In case of systems failures or breakdowns involving the loss of one or more of the basic functions of the physical protection system described in this Instruction or the temporary breach of the requirements that appear in this article, the licensee must adopt compensation measures that are necessary to reduce these losses until their final settlement.

13. Access to the sources or the equipment that contain them is protected by physical barriers (walls, floor and ceiling) that must maintain the same level of delay around its perimeter and surroundings. Doors, windows or penetrations, as well as the anchors and locks of said barriers, will provide the same level of delay as the physical barriers. In any case, the levels of delay provided by a particular physical barrier will be evaluated as the delay provided by its weakest component.

14. The radioactive sources that are located on equipments or mobile containers must adopt specific protection measures consistent with this portability feature.

15. The state of the sources will be checked regularly in a period of time determined by their categories, through verifying that the equipment, video recordings, seals, etc are functioning correctly.

16. Access control to the location of the radioactive sources may be carried out by using electronic systems, private security staff, administrative controls carried out by facility staff, etc. The staff in charge of the access controls must be equipped with at least two communication systems to immediately report, if necessary, the incident to the alarm station or, where applicable, to the Response Forces.

17. The licensee of the facility must establish procedures to identify and protect sensitive information concerning the physical protection of sources. This information will include documentation, information stored on computer systems and other media support. Among others, the following information on any media device that should be protected is:

- a) The inventory of radioactive sources and their specific location.
- b) The Security Plan and procedures.
- c) Information on physical protection systems (drawings, wiring diagrams, etc.).
- d) The analyzed or detected vulnerabilities in the physical protection system.
- e) Details of the number of surveillance staff and of their response and operating procedures.
- f) The procedures and contingency plans to develop the Security Plan.
- g) If it is the case, information on the theft of radioactive source and vehicle carrying it or the devices or the containers that house it during transport.

Sixth. Specific physical protection requirements for 1st category radioactive sources.

In this article the method of implementation for some of the general requirements mentioned in the previous article for the physical protection of 1st category radioactive sources. is described.

1. Access to 1st category radioactive sources will be possible after overcoming two independent physical barriers, which are different from the one exclusive or inherent to the radioactive source, and equipped with electronic intrusion detection systems and surveillance systems.

2. The state of the sources will be checked daily through verification of the correct operation of its container and shielding, the correct readings of area radiation measurement equipment, the use of video recordings, the condition of the seals, etc.

3. The facility will have a permanent security service contract with a security company duly licensed by the Ministry of Internal Affairs or the competent department in the Autonomous Community to perform guard, surveillance, patrol and initial response duties, in accordance with what is established in the Security Plan and the aforementioned requirements.

4. Access to the radioactive source must have electronic intrusion detection systems and surveillance systems through CCTV cameras connected both with a alarm station for such signals, with a security guard in charge who has the necessary equipment to operate such systems and who can immediately report to the competent response forces. This alarm receiving center can be located inside the facility or outside of it, being in the latter case, a service provided by a security company that is hired in accordance with the law on private security.

5. The alarm station, in case of trespassing or a confirmed unauthorised attempt of withdrawal of the source, will immediately notify the situation to the competent response forces and the licensee, by providing all relevant and available information on the situation. To that end, the alarm receiving center must have:

a) At least two alternative methods of communication to contact response forces (for example, landline and mobile phone, in conditions that could be used at any time).

b) Procedures to notify the response forces approved by the licensee.

c) An updated list of contact information of the response forces that have immediate authority and responsibility in the territory where the facility is located.

6. If the access control is based on the use of electronic systems and components, such system will require a combination of two different types of access credentials of the three possible:

a) knowledge, for example, knowing a password or a personal identification number.

b) possession, for example, having an identity card.

c) personal, for example, verifying a fingerprint or the geometry of the hand.

Seventh. Specific physical protection requirements for 2nd category radioactive sources.

In this article, the method of implementation for some of the general requirements in Article 5 for the physical protection of 2nd category radioactive sources is described.

1. Access to 2nd category sources will mean overcoming two independent physical barriers equipped with electronic intrusion detection systems and CCTV surveillance systems.

2. The state of the sources will be checked weekly through verification of the proper state of their containers and shielding, the correct readings of the area radiation measurement equipment, the use of video recordings, the condition of the seals, etc.

3. The facility will be equipped with a monitoring and response service provided by a security company duly licensed by the Ministry of Internal Affairs or the competent department in the Autonomous Region to perform the tasks as established in the Physical Protection Plan. During working hours and whenever there is operating staff in the facility, the security systems may be reduced to the permanent recording of CCTV cameras.

4. There will be an alarm station with a security guard in charge who has the necessary equipment to operate such systems and who can immediately report to the competent response forces. This alarm station can be located inside the facility or outside of it, being in the latter case, a service provided by a security company that is hired in accordance with the law on private security.

5. If the access control is based on electronic systems and components, the system will require the use of a single credential.

Eighth. Specific physical protection requirements for 3rd category radioactive sources.

In this article, the method of implementation for some of the general requirements that appear in Article 5 for the physical protection of the 3rd category radioactive sources is described.

1. Access to 3rd category radioactive sources is possible after overcoming a physical barrier, which is different from the one exclusive or inherent to the radioactive source.

2. The state of the sources will be checked monthly through verification of the correct operation of their container and shielding, the correct readings of area radiation measurement equipment, the use of video recordings, the condition of the seals, etc.

3. The facility will be equipped with a control system based on electronic systems or administrative controls that will require the use of one single credential to authorise access.

Ninth. Careful management practices for radioactive sources that are not as radioactive as the 1st, 2nd and 3rd categories, but which are above the exemption limits.

Radioactive sources that, as is stated in Annex II of the Royal Decree 1308/2011, of September 26th, do not reach 3rd category but are above the exemption limits, do not require the implementation of measures specifically related to physical protection against malicious acts, nor do they require the development and maintenance of a specific Security Plan for the sources classified as such.

Physical protection of such radioactive sources must be ensured through the proper implementation of the requirements on operational safety and the radiation protection of the workers and the public.

The licensees who can conduct activities with said sources must control their state, at least every three months. They shall notify the relevant authorities that appear in the Instruction IS-18 of any suspicion of theft or loss of control over one or several radioactive sources as soon as possible, in less than 24 hours from the time when the fault was detected.

Tenth. Specific physical protection requirements for the shipment of radioactive sources.

1. Article 26.3 of the Royal Decree 1308/2011, of September 26th, states: "When there are shipments of radioactive sources of 1st and 2nd categories in mobile equipment, radioactive devices or transport containers to be used in authorised activities of the radioactive facility to which they belong, according to Article 24, the Security Plan submitted by the licensee of the radioactive facility must consider and cover the risks inherent to such shipments." The fourth paragraph of the same article states that these transfers do not require prior notification and can be conducted whenever they are under the sole responsibility of the licensee of the radioactive sources and the licensee's transport is used for this purpose.

2. Shipments from the radioactive facility to the workplace, and vice versa, shall be expressly included in the operating license.

3. The technical requirements described in this article must apply also to the transfer of radioactive sources of 3rd category.

4. The radioactive sources that are moved may be stored temporarily in the workplace whenever the physical protection measures meet the requirements that appear in this Instruction, or otherwise, the measures involving the same level of protection of the aforementioned requirement must be adopted.

5. All inputs and outputs of the radioactive sources of the facility shall be recorded in a log book.

6. The facility must have procedures to ensure that shipments have been expressly authorised by the licensee and are made with the requirements established in this Instruction

7. The vehicles used to transport radioactive sources must be equipped with systems that meet the requirements below, without compromising the intervention of emergency services:

- a) They must have an alarm system to detect any attempt of trespassing onto the vehicle or the loading compartment where the radioactive sources are being carried.
- b) They must have an anti-theft system with an electronic lock-up system.
- c) They must have a lock or a safety padlock in the load compartment. The walls of this compartment and the hinges of the doors must be protected so that they have the same delay effect as the lock or the padlock.

8. The shipping container used to transport radioactive sources must meet the following requirements:

- a) It must have a lock or padlock.
 - b) During the shipment, the container must be attached to the chassis of the vehicle or firmly attached to a structure by safety chains with padlocks or another attachment that would cause a similar delay.
9. Where possible, the driver, the operator or any other worker of the facility with a license to conduct activities with the radioactive source must continuously monitor the transfer vehicle when the source or sources are inside. In all cases, the time that the vehicle is unattended must be kept to a minimum, and in all cases, it must be parked in a supervised area.

10. The driver or operator of the radioactive source must be permanently provided with means of communication and have written instructions on how to

proceed in case of any event threaten the physical protection of the transferred sources.

11. Prior to the shipment, the date, time and possibility of storage of radioactive sources should be coordinated with the client.

12. The way in which these requirements are specifically implemented must be described in the Security Plan of each radioactive facility.

Eleventh. Content of the Physical Security Plan

The Security Plan of radioactive sources must meet as minimum the following requirements:

1. Introduction. It will describe the object and scope of the Plan, as well as the criteria used by the licensee to proceed with its review and the procedures set to protect the contained information.

2. Object of protection. The Plan will identify the radioactive sources and their characteristics, as well as the description of the locations where they are stored, processed or used, indicating the roads to access the location within the facility. In addition, it will also describe the immediate surroundings to the facility, as well as access roads and factors that can affect the physical protection of the radioactive sources that have already been taken into account in the design of the physical protection system.

3. Description of the physical protection system. It will include physical protection measures for radioactive sources, such as: physical barriers, intrusion detection systems, surveillance systems, alarm monitoring systems, alarm station, control access systems, communications systems, as well as other systems that are part of the physical protection system for radioactive sources. Said measures must meet the minimum requirements established by the regulations of quality and performance of these structures, systems and components.

4. Organisation of physical protection. It will include the name of the position or the person directly responsible for the physical protection of radioactive sources. In this case, it will also include the physical protection organisational structure and staff numbers, the equipment of private security staff and the specific training plan for the staff in charge of the physical protection of radioactive sources.

5. Organisational procedures. It must include a list describing at least the following processes: authorisation and access control, event reporting to public authorities and response forces, data protection, equipment maintenance and physical security systems, etc.

6. Procedures for contingencies of physical protection. It will include a list of operating procedures in response to contingencies to the physical protection of

radioactive sources and to special operational situations, such as exchanging exhausted radioactive sources waste for new sources, etc.

7. Plans and diagrams of the facility. It will show the location of radioactive sources and the arrangement of the different elements that constitute the physical protection system for said sources.

8. Physical protection of radioactive sources during shipment. If applicable, it will describe the measures and procedures adopted for the physical protection of the sources during shipment under the sole responsibility of the licensee, whose vehicles will be used.

9. Controls in the hiring processes of new employees or when allocating staff to certain positions.

10. Procedures to evaluate and verify protection plans and to review and update them periodically.

11. Measures to ensure the physical protection of information on transfers and to ensure that the dissemination of this information is, if possible, only spread to those who require it.

Twelfth. *Exemptions.*

In any case when the licensees prove that it is not possible to meet the requirements of this Instruction, they are able to request temporary exemption of said compliance by properly explaining the reasons for requesting it, attaching a safety analysis and establishing an alternative way on how the established requirements will be respected.

Thirteenth. *Violations and Sanctions.*

The current Instruction of the Nuclear Safety Council is legally binding in accordance with the provisions of Article 2.a) of Law 15/1980, of 22nd April, creating the Nuclear Safety Council; therefore, non-compliance will be punished as declared in Chapter XIV (articles 85-93) of Law 25/1964, of 29th April, on Nuclear Energy.

The Act establishes the infringements and administrative penalties deriving from the incorrect use of radioactive materials.

Sole temporary provision. *Adaptation period.*

The licensees who can conduct activities with radioactive sources, included in the scope of this Instruction, will adapt or establish their corresponding physical

protection systems within a maximum period of eighteen months from the day following the publication of this Instruction, on the same terms as are established in the single transitional provision of the Royal Decree 1308/2011, of 26th September.

Sole derogatory provision.

Any regulation of equal or lower status that is opposed against this Instruction is abolished.

Sole final provision.

This Instruction shall come into force on the day following its publication in the 'Official State Gazette'.

The President of the Nuclear Safety Council, Fernando Marti Scharfhausen. Madrid, July 26th 2016.