



HERCA RISP
Information Paper –
Analysis of the 2019
questionnaire on
financial provision
systems

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The IAEA Fundamental Safety Principles sets the primary responsibility for safety on the undertaking. In cases such as insolvency, it may be possible that the undertaking has no means to carry out this responsibility. This is especially risky if the practice includes radioactive sources that might cause high expenses when rendered safe or become lost. Requiring a financial provision is a way to ensure the undertaking carries out its responsibilities. The EU BSS Directive requires a provision for high activity sealed sources. It is noted that not all HERCA members are EU members.

The questionnaire is based on HERCA RISP mandate to e.g. share information among regulatory bodies of good practices and implementation of regulations. The aim of this questionnaire and following information paper was to find out how different HERCA members have implemented financial provisions, what are the financial bases for the amounts and to what practices provision is required. The results show that there are many ways. We hope this information paper is valuable to HERCA members in assessing their own arrangements.

2. Purpose of the questionnaire

This questionnaire on financial provision systems was originally performed in 2019 and more answers were gathered in 2021. The purpose of the questionnaire was to gather information on financial provision systems in place in each participating country.

The questionnaire looked for information in following topics:

- When is the financial provision required,
- The amounts of financial provisions,
- Use of financial provisions,
- Any problems in cases where financial provision hasn't been furnished.

This information paper provides a summary of the results of the questionnaire.
Respondents

The questionnaire was sent to national authorities and organizations responsible for licensing, registration and notification of practices involving ionizing radiation in 32 European countries. Answers were received from 22 countries. Of the respondents, 17 countries have some kind of financial provision system for research and industrial sources. 5 countries answered that they do not have financial provision systems.

In figure 1, the countries that have given answers to the survey are marked in green colour. The countries that have stated that they don't have a financial provision system are marked with red symbol.

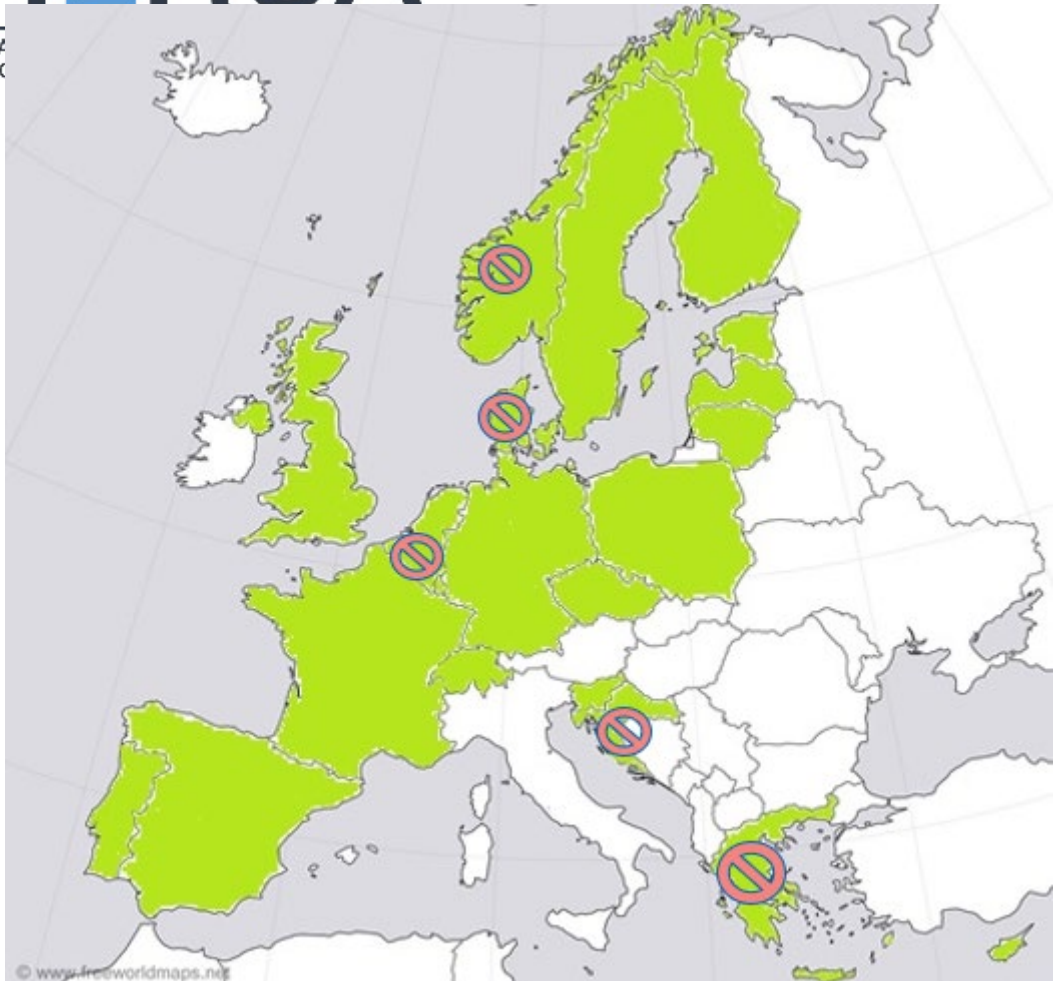


Figure 1 Countries that have answered the questionnaire are marked in green colour. The countries that don't have financial provision systems are marked with red symbol.

3. Results of the questionnaire

This chapter provides information on the answers that were given in the questionnaire. The questions in the questionnaire were directed to the respondents based on the answer to the question whether they have a financial provision system or not. The countries that have financial provision systems would answer all the questions and the countries that don't have financial provision systems would only answer to the last question of the questionnaire.

4.1 When is the financial provision required?

The answers to the question regarding the cases when financial provisions are required are shown in figure 2.

Based on the answers, financial provisions are required mainly in activities regarding high activity sealed sources (IAEA categories 1, 2 and 3). A small number of answers state that financial provisions are also required in activities regarding other sealed sources (IAEA categories 4 and 5) or industrial accelerators.

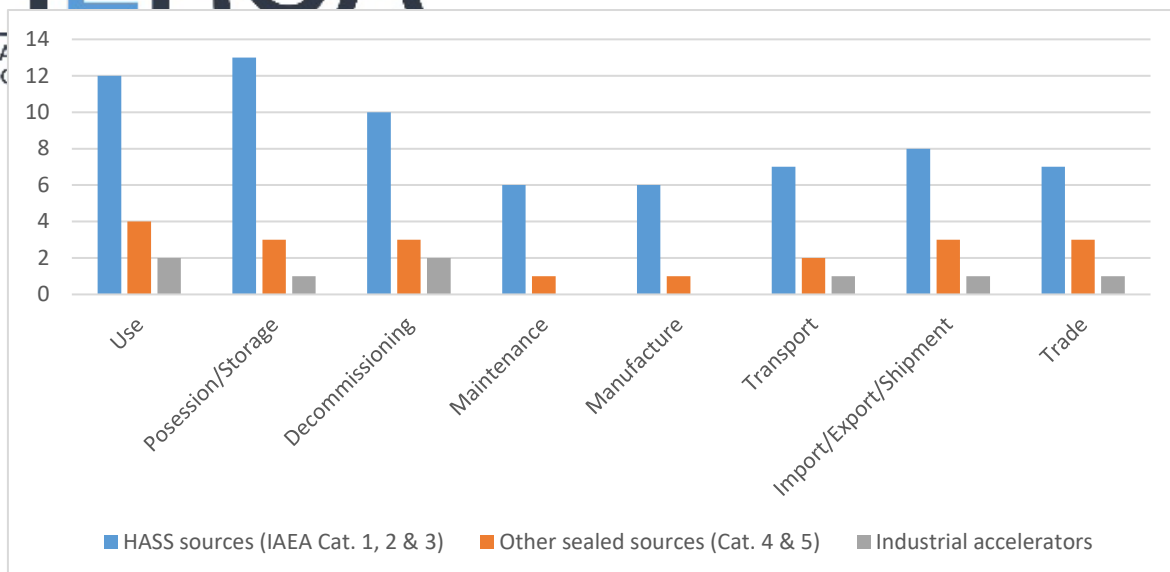


Figure 2 Financial provision is required in following cases

Based on the answers, other cases in which financial provisions are required are the following:

- scrap yards that may encounter orphan sources, depending on the amount of scrap processed
- decay storage
- possession of radioactive substances (sealed or unsealed sources) with combined activity that exceeds the activity value of HASS source (IAEA categories 1, 2 and 3)
- maintenance of radiation devices that contain sealed sources
- a practice which generates or may generate radioactive waste, provided that the costs arising from rendering it harmless are substantial
- financial provisions are required case by case.

The answers show that there is quite a lot of variation between member states in which cases financial provisions are required.

4.2 Who is required to furnish a financial provision?

The answers to the question regarding who is required to furnish a financial provision are shown in figure 3.

Based on the answers, financial provisions are required from private companies in all countries that have given answers and that have financial provision systems in place. Financial provisions are required from universities in 11 countries and from state and municipalities in 4 countries.

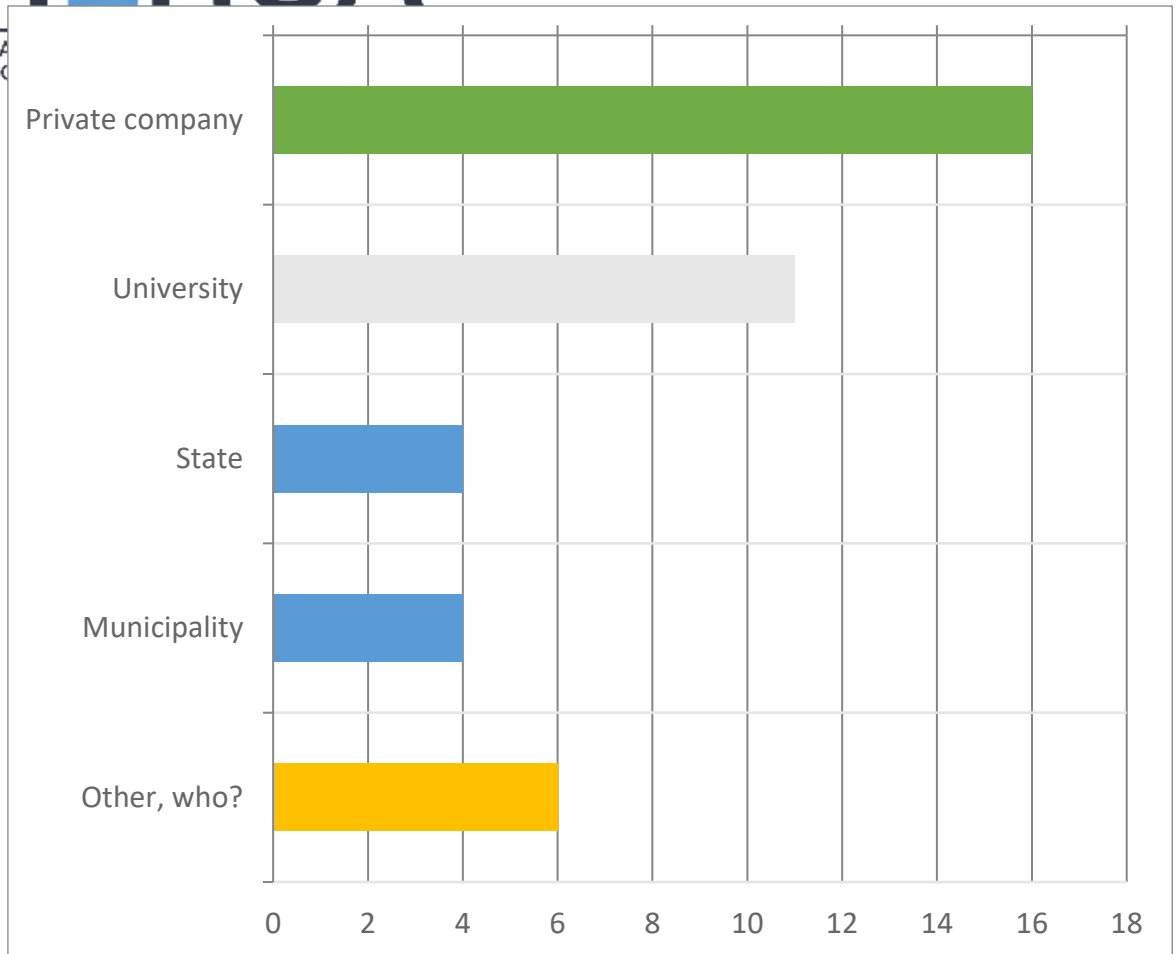


Figure 3 Entities who are required to furnish financial provisions

Other answers state that hospitals and NORM waste facilities are required to have financial provisions. Some have also specified that anyone who has a licence for practices involving HASS sources have this requirement.

4.2.1 Are there any exceptions in furnishing a financial provision regarding half-life?

The next question was about having any exceptions in furnishing financial provision regarding half-life. 13 countries stated that there is no exception regarding half-life of a radioactive substance. 4 countries stated that there are some exceptions. These exceptions are the following:

- Finland: A financial provision is not needed for a radioactive substance with a half-life shorter than 150 days
- Lithuania: Sealed radioactive sources category IV-V with short-lived radionuclides with a half-life of 100 days or less is not required to have financial provision
- Sweden: Decision is taken case by case
- Estonia: In the case of open sources in a research institution

4.2.2 The amounts of financial provisions and their consistency with actual costs

The given answers state that financial provisions are typically bank guarantees, insurances, blocked bank accounts or funds set up for the purpose. Most of the answers state that the amount of financial provision is determined case by case based on the estimated cost for decommissioning. There are a few exceptions to this, and they are the following:

- Finland: In most cases financial provision consists of a fixed basic charge and a surcharge, which is based on the radionuclide and activity. In some cases, it is based on case-specifically estimated overall costs.
- Latvia: Amount is determined as prescribed in Regulations – including costs of transporting the HASS source + costs of packaging, labeling, measurement of radioactivity and storage of radioactive waste.
- Portugal: The holder of a practice involving sealed radioactive sources shall provide a security deposit through a bank guarantee or deposit in the amount of 10% of the cost of the acquisition of each source.

The amounts of typical financial provisions are shown in figure 4.

The amount of a typical financial provision (€)
HASS source: 75 000 €
Decay storage 30 000 €
30 000 – 50 000 £ (about 33 000 – 55 000 €)
4000 – 5000 € for high activity sources used in industrial radiography
175 € per DM3
scrap yards 110 000 €/company
Starts at 50,000 € for HASS at their lower limit and going up to 14,000,000 € for 10 ¹⁵ times the exemption limit
Depends on the radiation source and its activity. On average, it can be around € 3,500 - 4,000 for a 370 MBq of Cs-137
8 000 – 11 000 €

10 000 – 15 000 € for typical industrial sealed sources

40 000 – 50 000 € for blood irradiators or other irradiators

Approximately 1000 €

Figure 4 The amounts of typical financial provisions

The answers show that the variation in amounts of financial provisions between member states is very wide. Regardless of this, most countries seem confident that the amounts of financial provisions are consistent with the actual costs, because the financial provisions are set case by case and they are based on costs given by suppliers or radioactive waste managers. A few responses also state that they don't have data or experience on this.

4.3 Use of financial provisions

The next question was about use of financial provision; what the financial provisions can be used for and when.

Almost all the answers state that financial provisions are mainly to be used to cover the expenses of disposal of HASS sources in case of bankruptcy of the licensee. Single answers state that financial provision can also be used in following events:

- scrap company: to cover the cost incurred in removing radioactive scrap metal that is held at the facility
- rendering radioactive waste harmless, including decommissioning of sealed sources and any possible environmental cleaning up measures
- to cover damages stemming from either the unauthorized use or clean-up of HASS.

4.3.1 Any problems in cases where financial provision hasn't been furnished

The last question was directed to all the respondents of the questionnaire regardless of their country having a financial provision system or not. The question was if there has been any financial or other problems with safety licence holders that have not furnished financial provisions.

19 of the 22 responses state that there haven't been financial or other problems with safety licence holders that have not furnished financial provisions, or at least not yet. In some countries financial provisions are quite new addition to legislation, so there isn't necessarily much experience using the financial provisions.

Some responses state that there have been cases of bankruptcy with some problems regarding disposal of HASS sources. However, it is unclear whether financial provision would have solved the matter.

Some countries that don't have financial provision systems still have certain funds or annual budgets for the authorities to manage sources or decommission sites if needed.

This questionnaire shows that there is quite a lot of variation between member states in how the financial provisions are implemented. The most typical case would be, that financial provisions are required in activities regarding HASS sources (IAEA categories 1, 2 and 3) and the amount of the financial provision is determined case by case. Some member states have exceptions in who is required to furnish a financial provision, and some have exceptions regarding half-life of the nuclides. Some countries have quite precise methods or formulas to calculate the sums of financial provisions.

In conclusion, there are as many different financial provision systems as there are countries that have implemented them. It is difficult to know how effective these systems are when there are only few concrete examples of actually using the financial provisions, or none at all.