



HM Government of Gibraltar

Policy Document:

Establishing and maintaining policies for Gibraltar on spent fuel and radioactive waste management on the basis of the principles set out in Regulation 4(3) of the Responsible and Safe Management of Spent Fuel and Radioactive Waste Regulations 2013 (as amended).

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HM Government of Gibraltar



1. Introduction.

Regulation 4 of the Responsible and Safe Management of Spent Fuel and Radioactive Waste Regulations 2013 (as amended) (the “**Regulations**”), sets out a number of principles on which HM Government of Gibraltar’s (“**HMGoG**”) policies on spent fuel and radioactive waste management are based. The purpose of this **Policy Document**, which itself forms part of Gibraltar’s **Nuclear Waste Management Framework**, is to elaborate upon how HMGoG has established its policies on spent fuel and radioactive waste management, and how it will maintain its policies on spent fuel and radioactive waste management, on the basis of those principles.

2. The National Policy.

The national policy for Gibraltar, established in accordance with Regulation 4 of the Regulations, is particularised in this section 2 of this Policy Document.

2.1. *“HMGoG shall have ultimate responsibility for management of the spent fuel and radioactive waste generated in Gibraltar”.*

Regulation 4(1) of the Regulations establishes that HMGoG has ultimate responsibility for management of the spent fuel and radioactive waste generated in Gibraltar. The Nuclear Waste Management Framework contains Gibraltar’s legislative, regulatory and organisational framework which allows for HMGoG to discharge that responsibility.

- **Spent Fuel**

According to a definition provided by the European Nuclear Safety Regulators Group:

“Spent fuel is the name given to nuclear fuel that has been removed from a nuclear power or research reactor following irradiation. It is a mixture of plutonium, uranium and waste materials and is no longer usable as fuel. It is extremely radioactive and generates a large amount of heat and must be carefully managed”.

It is HMGoG’s policy to not develop, or allow to be developed in Gibraltar, any activity that would lead to the production of spent fuel. There is no nuclear sector in Gibraltar and there are no nuclear power plants or research reactors in Gibraltar which would give rise to the generation or subsequent exportation of spent nuclear



fuels. Moreover, given Gibraltar's geographical features and extremely high population density, the scope for such activities to ever take place in Gibraltar is extremely limited.

Furthermore, the policy of HMGoG would be to not support any initiative that could lead to the importation into Gibraltar of spent fuel for the purposes of treatment, processing, reprocessing, storage and/or disposal.

Therefore, whilst it is HMGoG's responsibility, pursuant to Regulation 4(1) of the Regulations, to manage spent fuel present in Gibraltar, there is no spent fuel in Gibraltar and HMGoG has the above-mentioned policies in place to prevent its production or importation or a need for its exportation.

- **Radioactive waste**

In addition to not having a nuclear sector, there is no agriculture or domestic, industrial manufacturing activity in Gibraltar. Activities which take place in Gibraltar do not, therefore, produce radioactive waste which would be classified as high, intermediate or low level radioactive waste (see Section 6.3. of the **Framework Document** where different waste categories are defined).

There is an extremely limited amount of very low level radioactive waste present in Gibraltar. This is limited to smoke detectors (Americium-241 as a sealed radioactive source), radioactive waste produced by medical, dentistry and veterinary sectors in the form of sealed radioactive sources (X-rays) and full-body scanners used at Gibraltar Airport (X-rays). With respect to radioactive waste produced in the medical sector, it should be noted that Gibraltar does not have facilities to treat cancer patients with radiotherapy and such patients are referred to healthcare providers abroad to receive this treatment. Neither do Gibraltar healthcare providers treat patients with other forms of nuclear medicine.

Since Gibraltar does not have adequate facilities to treat this very low level radioactive waste in Gibraltar, it is HMGoG's policy to ensure that operators responsible for activities which deal with materials which produce radioactive waste have "take-back" agreements with the manufacturers of those materials. In the event that disused, sealed sources of very low radioactive waste are unable to be repatriated to a supplier or manufacturer (for example, because the supplier of manufacturer is no longer in business), any remaining radioactive waste should be exported to authorised destinations outside of Gibraltar. The export of such radioactive waste is a regulated activity under the Gibraltar Transfrontier Shipment of Radioactive Waste and Spent Fuel Regulations 2012 (the "**TFS Regulations**") which transposed, in Gibraltar, Council Directive 2006/117/Euratom. At the time



of publishing this Policy Document, it has not been the case that operators in Gibraltar have ever had to rely on procedures under the TFS Regulations for the export of radioactive waste. This is because it has been possible for such waste to be disposed of alongside municipal waste (as is the case with respect to intact smoke detectors), and noting that Regulations 4(4) and 4(5) of the Regulations do not apply to the repatriation or disused sealed source to a supplier or manufacturer, it has been possible to repatriate this waste.

Furthermore, there has never been any application for a licence to import into Gibraltar any radioactive waste for treatment, processing, reprocessing, storage and/or disposal.

2.2. *“Responsibility where radioactive waste or spent fuel is shipped for processing or reprocessing to a Member State or a third country”.*

Regulation 4(2) of the Regulations establishes that:

- Where radioactive waste is shipped for processing or reprocessing **from Gibraltar** to an EU Member State or a third country, the ultimate responsibility for the safe and responsible disposal of those materials, including any waste as a by-product, shall remain with HMGoG.
- Where radioactive waste is shipped for processing or reprocessing **to Gibraltar** from an EU Member State or a third country, the ultimate responsibility for the safe and responsible disposal of those materials, including any waste as a by-product, shall remain with the EU Member State or third country from which the radioactive material was shipped.

At the time of publishing of this Policy Document, Gibraltar neither ships radioactive waste or spent fuel to an EU Member State or third countries and neither does it receive such material from outside of Gibraltar.

However, as stated above, HMGoG has transposed Council Directive 2006/117/EURATOM into Gibraltar law. This would support the potential option of transporting waste from Gibraltar to another country with the appropriate waste management and disposal arrangements already in place.



2.3. “The generation of radioactive waste shall be kept to the minimum which is reasonably practicable, both in terms of activity and volume, by means of appropriate design measures and of operating and decommissioning practices, including the recycling and reuse of materials”.

In accordance with Regulation 4(3)(a) of the Regulations, it is HMGoG’s policy to keep the generation of radioactive waste to the minimum which is reasonably practicable.

In order to further this policy, HMGoG has introduced amendments to its legislation on imports restricting the importation of radioactive material unless an import licence for these purposes has been granted to the importer by HM Customs Gibraltar on recommendation from the Environmental Agency as the competent authority under Regulation 6(1) of the Regulations (“the **Agency**”). Such recommendation will not be provided unless the Agency has assessed that the material is for a necessary and justified use and that the material cannot be replaced by a non-radioactive alternative.

Radioactive waste that is discovered in unauthorised trans-shipments are to be returned to the country where the radioactive waste originated from.

2.4. “The interdependencies between all steps in spent fuel and radioactive waste generation and management shall be taken into account”.

Regulation 4(3)(b) sets out HMGoG’s policy with respect to taking into account the interdependencies between all steps in radioactive waste generation and management. This is particularly important since the different steps in radioactive waste management are closely interrelated in a way which would mean that decisions taken in one individual step may affect a subsequent step.

This is implemented through the following:

- HMGoG’s decision to adopt, in Gibraltar, the UK Government’s [“Policy for the Long Term Management of Solid Low Level Radioactive Waste”](#); and
- HMGoG’s decision to adopt, in Gibraltar, the UK Government’s [“Strategy for the management of solid low level radioactive waste from the non-nuclear industry: part 1 - anthropogenic radionuclides”](#).



2.5. “Spent fuel and radioactive waste shall be safely managed, including in the long term with passive safety features”.

In Gibraltar, the Environmental Agency has responsibility to ensure that any radioactive waste present in Gibraltar is stored in a safe and secure manner for the anticipated storage period in a way that ensures the protection of people and the environment.

Arrangements for the safe and secure storage of radioactive waste should have regard to:

- passive safety features;
- multiple barrier containment to ensure protection of people and the environment;
- the design of storage facilities;
- storage capacity;
- acceptance criteria;
- maintenance;
- inspection and retrieval; and
- records.

Were an application to be made to the Agency, under Regulation 6B(1), for a licence to engage in any activity involving radioactive waste or to operate a waste management facility handling radioactive waste, the Agency will take the above-mentioned considerations into account.

Policy in this area has been developed on the basis of [Joint Guidance](#) issued by the UK Office for Nuclear Regulation, the UK Environment Agency and the Scottish Environment Protection Agency to nuclear licensees with respect to each of the arrangements listed above.

Such policy is consistent with the requirement in Regulation 4(3)(c) of the Regulations.



2.6. *“Implementation of measures shall follow a graded approach”.*

In implementing the Nuclear Waste Management Framework, HMGoG has followed the graded approach as required by Regulation 4(3)(d) of the Regulations. Therefore, as underlined by the International Atomic Energy Agency, the stringency with which HMGoG will apply the Nuclear Waste Management Framework, and its underlying systems of control and safety requirements, will be commensurate, to the extent practicable, with the likelihood and possible consequences of, and the level of risk associated with: (i) a loss of control; or (ii) the characteristics of the practice or source and the magnitude and likelihood of the exposures. In applying the graded approach, it is HMGoG’s policy to follow [Guidance](#) issued by the UK Office for Nuclear Regulation. Long term storage for longer lived radio-isotopes is not a viable option and potential disposal sites, overseas, can be evaluated in this event.

2.7. *“The costs for the management of spent fuel and radioactive waste shall be borne by those who generated those materials”.*

In accordance with Regulation 4(3)(e) of the Regulations, it is HMGoG’s policy to ensure that liability for the costs of the management of spent fuel and radioactive waste lies with the generator of those materials. A licence under the Regulations shall not be granted to an operator who does not take on such responsibility for costs.

2.8. *“An evidence-based and documented decision-making process shall be applied with regard to all stages of the management of spent fuel and radioactive waste”.*

In accordance with Regulation 4(3)(f) of the Regulations, HMGoG requires the Agency to apply an evidence and risk based documented decision-making process with regard to all stages of the management of radioactive waste. This will enable the identification of areas of uncertainty on which attention needs to be focused in an assessment of safety. Safety decisions will be based on the findings of an assessment of safety and information on the robustness and reliability of that assessment and the assumptions made therein. The decision-making process will therefore be based on a collection of arguments and evidence that seek to demonstrate that the required standard of safety is achieved. Peer review and approval is to be achieved through the establishment of links with relevant UK agencies and authorities.