

**Joint Convention  
on the Safety of Spent Fuel Management and on  
the Safety of Radioactive Waste Management**

**Eighth Review Meeting (17-28 March**

**Questions Posted to Greece by the Contracting Parties  
and Answers provided by Greece**

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Botswana	Article 28	Section J, page 23	<p>In your report you stated that, the licensee, in order to import a sealed radioactive source, shall take all the appropriate measures for the safe management of the sources when they become disused, including the foreign supplier's commitment to take the source back.</p> <p>i) Have you or any of your Licensee's encountered any challenges of sending back disused sources to the manufacturer, despite having a guarantee from manufacturer to take disused sources back?</p>	<p>Challenges in returning disused sources to the manufacturer despite a formal guarantee include:</p> <ol style="list-style-type: none"> <li>1. High repatriation costs: Before importing a radioactive source, the facility/operator must provide a written declaration confirming financial and administrative responsibility for returning the source to the manufacturer or another authorized facility.</li> <li>2. Expired source certificate: If the certificate is no longer valid, the operator seeks renewal or alternative solutions. If unsuccessful, the DSRS is added to the disposal inventory and stored under regulatory control until a national disposal solution is available.</li> <li>3. Manufacturer closure: If the manufacturer no longer exists, the operator must identify other authorized facilities abroad that accept sources for recycling.</li> </ol>
Botswana	Article 15	Section K, page 24	<p>In your report, you stated that, a preliminary study for the site of a disposal facility has been conducted.</p> <p>i) Can you please describe the process to begin establishing the approach that you used to engage the public during the siting process for the disposal site?</p> <p>ii) What was the public reaction to the establishment of the disposal site?</p>	<p>Public engagement is an act of timing. Engaging early on is crucial to build trust but if you are not appropriately prepared then fear or misconceptions may arise. The first step regarding public engagement is to get prepared. This was one of the objectives of the preliminary study. Not only to address the technical issues regarding the RW disposal siting but to get a better understanding and build internal confidence to develop a structured stakeholders engagement strategy. A top-down plan with sequential stages has been proposed. Priority was given to address the general public lack of information or education regarding RW. Thus, a social media information campaign in a simple, comprehensive language, avoiding strict technical jargon was developed and is about to be launched. An indigenous people engagement plan is being developed</p>

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				in case the preliminary study siting is established as suitable. Workshops with the locals, ask an expert meetings and public debates are some of the ideas that might be implemented.
United States of America	General	Section 3, p. 3	The Integrated Review Service for Radioactive Waste and Spent Fuel, Decommissioning and Remediation (ARTEMIS) was conducted in 2023. Please tell us about the progress of addressing the findings and observations since the National Report was submitted.	<p>Since the submission of the National Report, progress has been made in addressing the findings and observations of the 2023 ARTEMIS mission:</p> <ul style="list-style-type: none"> <li>- Policy &amp; Stakeholder Involvement: EEAE has informed the government about the findings, and discussions are ongoing regarding stakeholder involvement and the management of all waste streams.</li> <li>- National Strategy: The definition of NORM is ready to be included in the strategy, and discussions on the establishment of OPADRY are planned.</li> <li>- Inventory &amp; Waste Characterization: Significant progress has been made through a national project, particularly in characterizing historical waste drums.</li> <li>- Storage Facility &amp; Decommissioning: While no major developments have been reported, personnel have been assigned responsibilities for these areas.</li> <li>- Cost Estimate &amp; Capacity Building: No updates at this stage.</li> </ul>
United States of America	General	Section A, p. 17	Greece has established rules and regulations for a RW disposal facility, including post closure requirements (Art. 17 page 21). What is the status of the planning for the disposal facility?	At this stage, there are no concrete plans for the construction of a radioactive waste disposal facility in Greece. However, discussions are ongoing, and the necessary regulatory framework is being developed to support future developments when a national decision is made. As part of this effort, a preliminary study has been conducted to assess the potential suitability of the NCSR "D" site. This study includes both general considerations for radioactive waste disposal and site-specific

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				<p>assessments based on the geological, hydrogeological, and geochemical characteristics of the Attica region, where NCSR "D" is located. While the study provides an initial understanding of the site's potential, more detailed analyses, including hydrogeological studies and in situ measurements, have been planned for the next three years to refine the assessment. These studies aim to gather precise data on groundwater flow, soil composition, and long-term stability to ensure compliance with safety and environmental protection requirements. If the results indicate that the site does not meet the necessary criteria for a disposal facility, alternative locations will be evaluated. This evaluation will follow a structured approach, beginning with a preliminary screening based on existing geological and environmental data, followed by site-specific measurements to determine suitability.</p>
Brazil	Article 32.1.1	Section B, Policies and Practices - Pg. 05	<p>The report states that RW in Greece originates from medicine, research - including the past operation of the GRR-1 - and industry. How many licensed installations are under regulatory control in Greece? Is there a regular program of inspections aimed to these installations? How often are inspections performed per year?</p>	<p>The licensed installations under regulatory control that may produce RW, including DSRS are (data of 2024): 14 facilities with brachytherapy practices, 152 facilities with nuclear medicine practices, 400 Industrial facilities, 14 blood Irradiators, 213 research facilities, 7 facilities with NORM, 1 facility for the sterilization of medical products, 4 radioisotope production, 1 research reactor (GRR-1) in extended shutdown, 1 research particle accelerator and 1 Interim storage facility at NCSR "D". EEAE conducts on-site inspections at the facilities, with the aim of confirming compliance with the requirements of the regulatory framework. Programmed and reactive inspections, both unannounced and announced, based on graded approach, form the EEAE's inspection program, which is drawn up on an annual basis and may</p>

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				<p>modified monthly according to the needs.</p> <p>About 200 on-site inspections are performed annually (207 in 2023). Half of those (97 in 2023) were conducted in facilities producing RW or having radioactive sources. According to the inspection program, all facilities are inspected within a period of 5 years; following the graded approach, facilities of higher radiological risk (e.g. interim storage, GRR-1, etc.) are inspected more frequently (e.g. at least annually). The Annual Inspection Report is uploaded to EEAE website (in Greek) <a href="https://eeae.gr/ασφάλεια-ακτινοβολιών/ρυθμιστικός-έλεγχος/ιοντίζουσα-ακτινοβολία/επιθεωρήσεις">https://eeae.gr/ασφάλεια-ακτινοβολιών/ρυθμιστικός-έλεγχος/ιοντίζουσα-ακτινοβολία/επιθεωρήσεις</a></p>
Brazil	Article 20	Section E – Regulatory Body, Pg. 12	“EEAE has a 69-member staff”. How many are dedicated exclusively to radioactive waste management activities?	<p>The EEAE unit responsible for ionizing radiation practices consists of 12 staff members. While most of them are mostly engaged with medical and industrial facilities (since these consist the majority of the facilities in Greece), which also generate radioactive waste, there are no staff members exclusively dedicated to radioactive waste management. However, radioactive waste management is an integral part of EEAE’s processes, including inspections, review, and assessment.</p>

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Brazil	Article 11	Section H – General safety requirements, Pg. 18	The report states that “it is stressed that the radioactive disposal facility shall be sited, designed and operate with a view to isolating waste from humans and the biosphere for a prolonged period of time (more than 1000 years)”. On the other side, it is informed that the vast majority of the radioactive waste in Greece are VSLW, VLLW and LLW and only a very small amount of ILW waste may eventually arise, mainly from some parts of the dismantled core of the reactor. In this case, why is done the option for a so prolonged period of time, more than 1000 years? How can you ensure more than 1000 years of isolation? Just for clarification, are you talking about 1000 years of institutional control for the disposal facility?	The sentence cited from the report refers to a disposal facility in Greece in a general sense, considering potential future activities that might generate ILW, such as nuclear-related operations. The current approach foresees an active institutional control period of 100 years, followed by an additional 200 years for memory retention. The reference to 1000 years corresponds to the time span considered in the radiological impact assessment.
Iceland	Article 13	Section K	Is the preliminary study, including geological, hydrogeological and geochemical analyses, only executed for th NCSR "D" site or will the site selection process include comparisons of different sites against the applied safety criteria?	The preliminary study for the NCSR "D" site includes both general considerations applicable to radioactive waste disposal and site-specific assessments based on the geological, hydrogeological, and geochemical characteristics of the Attica region, where NCSR "D" is located. While the study provides an initial understanding of the site's suitability, more detailed analyses, including hydrogeological studies and in situ measurements, have been planned for the next three years to refine the assessment. These studies aim to gather precise data on groundwater flow, soil composition, and long-term stability to ensure compliance with safety and environmental protection requirements. If the results indicate that the site does not meet the necessary criteria for a disposal facility, alternative locations will be evaluated. This evaluation will follow

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				<p>a structured approach, beginning with a preliminary screening based on existing geological and environmental data, followed by site-specific measurements to determine suitability.</p>
Iceland	Article 13	Section K	<p>Can Greece elaborate on how public involvement is included in the decision making process regarding site selection for a disposal facility for radioactive waste?</p>	<p>The public engagement strategy is currently being developed, with an initial focus on analyzing public needs and concerns while segmenting stakeholders based on their interests and influence on the radioactive waste management project. Key groups include the general public, local communities, NGOs, activists, and residents of surrounding areas. Given the documented lack of public awareness on radioactive waste in Greece, priority has been given to providing accurate information. To this end, a social media campaign has been developed and is about to be launched to inform and educate the public, including local communities. Although the site selection procedure has not yet begun, public involvement will follow principles similar to those outlined in Article 10 of the Ministerial Decision on transparency in the licensing process. Before a decision is made, consultation procedures will be conducted, ensuring that safety-related information is publicly available on the Greek Atomic Energy Commission's website in clear and simple language. The public and stakeholders will be invited to submit written comments within a limited time period, while any sensitive data related to public security or competitiveness will be appropriately considered.</p>

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Iceland	General	Section K	It is mentioned that the national policy on radioactive waste management is considered to be updated based on, e.g., ARTEMIS findings. How is Greece's national policy on radioactive waste management periodically reviewed and updated to incorporate new safety standards or technological advancements? Who is responsible for monitoring and revising the national policy to ensure it aligns with both national and international requirements?	The national policy for RW management is established through a Joint Ministerial Decision. EEDRA regularly reviews the National Strategy using key performance indicators and provides recommendations to the respective Minister responsible for EEAE. This process ensures alignment with technological and scientific developments, as well as best practices from international peer reviews (article 11.2 of Joint Ministerial Decision). EEAE is also responsible for proposing updates to the national strategy to the respective Minister. These updates incorporate plans and information submitted by NCSR "D" for all stages of radioactive waste management, covering historical waste, spent fuel, and waste arising from the decommissioning of the research reactor and other NCSR "D" facilities.
Ukraine	Article 32	Section B	How does Greece ensure transparency and public engagement in the processes of radioactive waste management?	The public engagement strategy is currently being developed. As a first step, public needs and concerns are being analyzed, and stakeholders are segmented based on their interests and influence on the radioactive waste management project. Key groups include the general public, local communities, NGOs, activists, and residents of surrounding areas. Given the documented lack of public awareness on radioactive waste in Greece, priority has been given to providing accurate information. To this end, a social media campaign has been developed and is about to be launched to inform and educate the public, including local communities.
Russian Federation	General	Section H	As stated on page 19 of the NR, the license for the operation of the existing interim RW storage facility was renewed in 2022.  Could you please indicate the	The license was issued for a period of two years, which means that it was expired in December 2024. NCSR "D" has asked for a six month extension to fully address the conditions of the license and submit all the relevant

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			term for which this license was issued?	information including an updated safety report.
Russian Federation	General	Section F	<p>As stated on page 16 of the NR, in order to extend the GRR-1 Long Shutdown License, which expires in 2024, it is necessary to complete a nuclear decommissioning plan.</p> <p>Could you please clarify at what stage the GRR-1 decommissioning plan is being prepared?</p>	The decommissioning plan is being prepared. A draft decommissioning plan of the primary cooling system is ready and in review process. Further components of the reactor facility are expected to be included in the decommissioning plan within 2025.
Germany	Article 28	Section J - p.23	<p>With regard to orphan radioactive sources: What should be done with radiation sources that cannot be returned to the manufacturer? With regard to radiation sources with long-lived radionuclides, what would be the preferred disposal route? Is conditioning of these sources planned?</p>	<p>Regarding orphan sources, there is a strong collaboration between EEAE and NCSR "D", which enables EEAE to temporarily store the orphan sources in the interim storage facility until their disposal, whenever there is a clear and urgent need, based on EEAE's judgment from a safety, security, and radiation protection perspective. Financial resources for the recovery and management of orphan sources are provided by EEAE and the State.</p> <p>For radiation sources that cannot be returned to the manufacturer, clearance is one solution (based on authorized clearance levels). However, radiation sources with long-lived radionuclides cannot be cleared. In such cases, reuse is encouraged, though only a few successful cases have occurred in the past.</p> <p>Conditioning is not a feasible option due to the lack of appropriate infrastructure. Therefore, these sources are safely stored under regulatory control until a final decision for their disposal is made.</p>

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Germany	Article 26	Section F - p.16	With regard to the dismantling of the GRR-1 research reactor: Is there already an initial timetable for the dismantling of the GRR-1 research reactor, especially in view of the currently still missing repository for radioactive waste? What will happen to the dismantled core components of the research reactor in the future?	The timetable is being processed. The current status, since no repository is available yet, is maintaining the radioactive waste within the reactor facility buildings in specially designed areas with restricted access. However, all nuclear materials have been removed. The last elements of fuel were exported in 2023.
Germany	Planned Activities	Section K - p.24	The submitted report mentions that an ARTEMIS mission was carried out in 2023. A total of 15 findings were made, including a recommendation to Greece to address the SF&RW management strategy. Can you briefly outline what changes are to be expected in this regard?	The ARTEMIS mission identified two key findings regarding the national strategy: (a) the need to develop a process for involving stakeholders in the site selection of disposal facility outsided the NCSR "D" and (b) the timely establishment of OPADRY to oversee siting, design, and construction of a radioactive waste management facility. The first issue has not yet been addressed in the work plan, as efforts are focused on exploring the possibility of continuing with a disposal facility at NCSR "D" premises. For the second, the responsible minister has been informed, and discussions will follow to draft a ministerial decision for OPADRY's establishment within an appropriate timeframe.
Germany	Article 26	Section F - p.16	With regard to the establishment of a new authority (WMO): What is the Greek plan for staff development, training and the provision of the necessary financial resources?	The national program provides that the new Waste Management Organization (WMO – OPADRY) may receive state financial support, with specific details outlined in the relevant joint ministerial decision. A budget of €200,000 has been allocated for its establishment. Staff recruitment will follow the general state hiring procedures, considering the necessary qualifications. It is expected that by the time the organization is fully established, a critical number of experienced scientists will be available.

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Germany	Article 10	Section K - p.25	With regard to the establishment of a site selection procedure: How will the population be involved in a site selection procedure and are there already initial considerations for possible Waste Acceptance Criteria, also with regard to non-radiological limitations?	<p>The public engagement strategy is currently being developed, with an initial focus on analyzing public needs and concerns while segmenting stakeholders based on their interests and influence on the radioactive waste management project. Key groups include the general public, local communities, NGOs, activists, and residents of surrounding areas. Given the documented lack of public awareness on radioactive waste in Greece, priority has been given to providing accurate information. To this end, a social media campaign has been developed and is about to be launched to inform and educate the public, including local communities. Although the site selection procedure has not yet begun, public involvement will follow principles similar to those outlined in Article 10 of the Ministerial Decision on transparency in the licensing process. Before a decision is made, consultation procedures will be conducted, ensuring that safety-related information is publicly available on the Greek Atomic Energy Commission's website in clear and simple language. The public and stakeholders will be invited to submit written comments within a limited time period, while any sensitive data related to public security or competitiveness will be appropriately considered.</p>

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Czech Republic	Article 28	I/23	What are the long-term plans for managing disused sealed sources and how does Greece ensure their safe disposal or return to manufacturers?	Greece's policy for managing disused sealed radioactive sources includes clearance based on authorized levels, repatriation to the manufacturer, or export to an authorized recycling facility. Facilities may temporarily store sources under regulatory control until clearance levels are met or export is arranged. A final decision on in-country disposal has not yet been made. Before importing a source, a written declaration from the manufacturer confirming acceptance after its useful life is required, along with a commitment from the operator to arrange and finance its export. Facility authorizations include a condition obligating the holder to return the source to the manufacturer or an authorized facility abroad. National repatriation projects have been conducted, such as the latest one, i.e. the Recovery and Resilience Facility project, which supported the export of 44 sources to authorized facilities in Hungary and the UK in 2024.
Czech Republic	Article 32	I/22	What are the criteria used to classify radioactive waste in Greece, and how does this classification impact the management strategies for different types of waste?	Radioactive waste classification in Greece follows the IAEA Safety Standards, particularly the General Safety Guide No. GSG-1. Classification criteria include the waste's origin, physical and chemical form, activity level, and the radionuclide's half-life. Waste is categorized by stream, such as medical waste, industrial sources, and waste from the research reactor's operation and decommissioning. All waste stored in the interim storage facility at NCSR "D" is in solid form. No treatment or conditioning is conducted. Gamma spectrometry measurements are used to assess activity levels, and clearance levels are applied according to Directive 2013/59/EURATOM. Accurate waste classification is essential for determining management strategies. For Low-

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				<p>Level Waste (LLW), segregation and volume reduction are initial steps, followed by short-term storage for short-lived radionuclides or long-term storage for long-lived radionuclides. These precede final decisions on clearance or waiting for disposal in near-surface facilities. Intermediate-Level Waste (ILW) requires conditioning and radionuclide immobilization before disposal. Up to now in the interim storage facility ILW have not been characterized.</p>
Czech Republic	Article 32	H/18	<p>How does Greece's regulatory framework address the prohibition of importing SF and RAW, and what implications does this have for domestic waste management practices?</p>	<p>According to Article 19 of the Joint Ministerial Decision (MD) for the RW management, the import of spent fuel and radioactive waste into Greece is strictly prohibited for any purpose, including treatment, storage, or disposal. However, if radioactive waste of Greek origin is sent abroad for treatment, the final responsibility for its safe disposal, including any by-product waste, remains with the competent minister responsible for EEAE. The primary responsibility for its safe disposal lies with the entity, whether a natural or legal person, that held the waste at the time of shipment.</p> <p>Currently, there is no spent fuel in Greece. If spent fuel is generated in the future, it is foreseen (Article 4.1.c of the MD) that research reactor spent fuel must be returned to a supplier or producer country under applicable international agreements, which are required at the time of nuclear fuel import.</p>