REPUBLIC OF CYPRUS

MINISTRY OF LABOUR, WELFARE AND SOCIAL INSURANCE

DEPARTMENT OF LABOUR INSPECTION

RADIATION INSPECTION AND CONTROL SERVICE

National Report

on the implementation of the Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste in the Republic of Cyprus

(unofficial translation)

submitted to the European Commission under
Article 14(1) of the above Directive and Regulation 17(1) of P.I. 178/2014
(the "Protection from Ionising Radiation and Nuclear Safety (Responsible and Safe Management of Spent Fuel and Radioactive Waste) Regulations of 2014")

Nicosia, Cyprus
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Abbreviations

(in alphabetical order)

DLI	Department of Labour Inspection
DSRS	Disused Sealed Radioactive Source
EC	European Commission
ENSREG	European Nuclear Safety Regulators Group
EU	European Union
EURATOM	European Atomic Energy Community
EURDEP	European Radiological Data Exchange Platform
GICNT	Global Initiative for Combating Nuclear Terrorism
GSG	General Safety Guide
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organisation
IMDGC	International Maritime Dangerous Goods Code
ITDB	Incident and Trafficking Database
MLWSI	Minister of Labour, Welfare and Social Insurance
NAPRO	National Programme (on the responsible and safe management of spent fuel and radioactive waste)
NORM	Naturally-Occurring Radioactive Material
P.I.	Public Instrument
RA	Regulatory Authority
RICS	Radiation Inspection and Control Service
SGL	State General Laboratory
TENORM	Technologically-Enhanced Naturally-Occurring Radioactive Material
TLC	Technical Licensing Committee
UNECE	United Nations Economic Commission for Europe
UPU	Universal Postal Union

1 Introduction

1.1 Transposition of the Directive 2011/70/Euratom to the national legislative framework (Article 15)

The Council Directive 2011/70/EURATOM [Ref. 1], establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste resulting from peaceful activities ("the Waste Directive"), was adopted on 19 July 2011 and entered into force on 22 August 2011 (Official Journal of the European Union (EU), L 199, p. 48-56).

In the Republic of Cyprus, the "Waste Directive" has been transposed to the national legislative framework in the form of regulations under the Protection from Ionising Radiation and Nuclear Safety legislation, as "the Protection from Ionising Radiation and Nuclear Safety (Responsible and Safe Management of Spent Fuel and Radioactive Waste) Regulations of 2014" [Ref. 2] (P.I. 178/2014) ("the Waste Regulations"), and brought into force as soon as were published in the Official Gazette of the Republic on 4 April 2014 (Official Gazette of the Republic of Cyprus, Annex III, Part I – Public Instruments, Issue 4770, p. 591-597).

1.2 Reporting obligations under the Directive 2011/70/Euratom (Article 14)

Apart from other obligations imposed for Member States under the Directive, a key obligation under Article 14(1) of the Directive is that Member States shall submit a report to the European Commission (EC) on the implementation of the Directive for the first time by 23 August 2015, and every 3 years thereafter, taking advantage of the review and reporting under the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management ("the Joint Convention") [Ref. 3].

Moreover, Member States shall periodically, and at least every 10 years, arrange for self-assessments of their national framework, competent regulatory authority (RA), National Programme (NAPRO) and its implementation, and invite an international peer review of their national framework, competent RA and/or NAPRO, with the aim of ensuring that high safety standards are achieved in the safe management of spent fuel and radioactive waste. The outcomes of any peer review shall be reported to the EC and the other Member States, and may be made available to the public where there is no conflict with security and proprietary information.

This report is submitted in fulfillment of the above obligations, taking into consideration the "Final Guidelines for MS Reports to the Waste Directive" document [Ref. 4] proposed by the European Nuclear Safety Regulators Group (ENSREG). The Articles of the Waste Directive relevant to each Section of this report are displayed throughout the headings and text in brackets (…).

2 Overview of the current situation

No nuclear applications that could lead to the generation or disposal of spent fuel (i.e. nuclear power plants, research reactors, nuclear treatment facilities, uranium or thorium mines etc.) exist in the country and the use of nuclear energy for the generation of electric power is not considered by the Government in the country's energy mix in the foreseeable future; therefore, there is no immediate prospect of having nuclear materials or spent fuel or activities related to nuclear materials or spent fuel.

In the Republic of Cyprus, the main origin of radioactive waste is from activities in the field of medicine, industry, and research. All sources or other radioisotopes used in the Republic of Cyprus are produced abroad, mainly in the EU and the United States. Radioactive waste may be produced from nuclear medicine applications in low volumes and very low radioactivity levels. There are also some legacy disused sealed radioactive sources (DSRS) used for cancer therapy in the past, smoke detectors, and lightning rods.

All practices involving radioactive materials have to be licensed under the Protection from Ionising Radiation and Nuclear Safety Laws of 2002 to 2011 ("the Law") [Ref. 5, 6 and 7]. For sealed sources, a condition imposed to the license holders is to return back to the supplier/manufacturer any disused source. Small amounts of short-lived radioactive waste produced in nuclear medicine departments are kept in storage until their activity is low enough to be disposed as normal waste. Also, any amount of radioactive waste produced in research activities that cannot be disposed of as normal waste, must be kept in storage until the activity is low enough to be disposed as normal waste or is exported/shipped abroad for final disposal.

In addition, all scrap metals exported/shipped to various countries for processing/recycling are monitored for radioactivity prior to shipment.

All disused sources, such as from cobalt (Co-60) teletherapy units and small sources from medical applications, lightning rods, smoke detectors, small sources for educational purposes used in the past in secondary education schools etc. have been collected in a licensed temporary storage under the Lefkosia General Hospital, Ministry of Health (license holder) until a final solution is decided e.g. shipment abroad for final disposal or local disposal.

The management of spent fuel in the country is prohibited by law (Regulation 5 of the Waste Regulations). Also, no facilities that could treat, process, reprocess, condition etc. radioactive waste exist in the country. The national policy and strategy [Ref. 8] refers only to the safe and responsible management of radioactive waste, and serves as the national commitment to address the country's radioactive waste issues in a coordinated, cooperative and sustainable manner, in line with the country's EU and other international obligations.

The policy of the Republic of Cyprus on the management of radioactive waste is based on the implementation of a graded approach depending on the use of radioactive materials and the relevant practices in the country.

The Republic of Cyprus is a member of the EU since 2004 and a member of the International Atomic Energy Agency (IAEA) since 1965. The legislation in the Republic of Cyprus on the safe and responsible management of radioactive waste is in line with European Acquis and the IAEA standards.

The Republic of Cyprus acceded to the Joint Convention on 21 October 2009, with the enactment of the ratification Law 13(III)/2009, published in the Official Journal of the Republic of 24 July 2009, Issue 4120 [Ref. 9]. This Law was brought into force on 19 January 2010. Since its accession to the above Convention, the Republic of Cyprus participated in two Review Meetings of the Convention in 2012 and 2015, and submitted the relevant National Reports.

The administration of the legislation on the safe and responsible management of radioactive waste is a responsibility assigned to the Minister of Labour, Welfare and Social Insurance (MLWSI) under the Law [Ref. 5, 6 and 7], as described in section 5.2 of the report. Furthermore, the Waste Regulations [Ref. 2] require that the Republic of Cyprus has in place a national framework for the management of radioactive waste and implements a national policy and strategy on this matter. This is also a requirement of the Joint Convention [Ref. 3] as well as of other Conventions, in order to ensure the protection of the workers, the public and the environment from the radiological risks arising from the management of radioactive waste.

The radioactive waste classification scheme followed supports the arrangements for the safe and responsible management of radioactive waste, taking fully into account the specific types and properties of radioactive waste.

3 Scope and implementation (Article 2)

The Waste Regulations apply to all stages of radioactive waste management, from generation to disposal, when the radioactive waste results from peaceful activities.

These Regulations do not apply to waste from extractive industries (NORM/TENORM) and to authorised releases.

Regulation 6(5) does not apply to the repatriation of disused sealed sources to a supplier or manufacturer.

These Regulations do not affect the right of the RA or an undertaking in the Republic to return radioactive waste, after processing, to its country of origin, where:

(a) the radioactive waste is to be shipped for processing; or

(b) other material is to be shipped with the purpose of recovering the radioactive waste.

The management of spent fuel in the Republic is prohibited **(Article 15(2))**.

4 The national policy on radioactive waste management (Article 4(3))

The RA, as described in section 5.2 of this report, has established and maintains a national policy on radioactive waste management.

4.1 General principles (Article 4(3)) and other principles

The national policy of the Republic of Cyprus on the management of radioactive waste is based on the following general principles:

(a) The national policy on the safe and responsible management of radioactive waste serves as the national commitment to address the country's issues on the management of radioactive waste in a safe, secure, responsible and sustainable manner, in accordance with national objectives and recognised international principles to protect individuals, society and environment from the harmful effects of ionising radiation due to radioactive waste, and to avoid imposing undue burdens on future generations **(Article 1(1))**.

(b) The policy is consistent with the requirements of the national legislative system, the obligations of the Republic of Cyprus as a member of the EU and the IAEA (Fundamental Safety Principles) [Ref. 10], relevant international principles and all international Conventions and Agreements to which the Republic of Cyprus is a party or signatory.

(c) The policy drives the establishment of a coherent, comprehensive and integrated radioactive waste management system in the Republic of Cyprus, taking into account all types of radioactive waste generated in the country, at all stages of the radioactive waste management, from peaceful applications of ionising radiation.

(d) The Government of the Republic of Cyprus has ultimate responsibility for the long-term management of radioactive waste.

(e) The financial burden for the management of radioactive waste, from generation to disposal, shall be borne, in principle, by the generators of the waste (the "Polluter pays" principle).

(f) The disposal of radioactive waste in dedicated facilities is recognised as the final end-point for sustainable management of radioactive waste, unless the waste can be released or exempted, according to national regulatory requirements.

(g) The interdependencies among all steps in radioactive waste generation and management are taken into account.

(h) Radioactive waste shall be safely managed, including in the long term with passive safety features.

(i) The minimisation of generation of radioactive waste at the design (minimisation at source), operation and decommissioning stages of facilities should be taken into account.

(j) The implementation of measures regarding the safe and responsible management of radioactive waste shall follow a graded approach.

(k) A sound evidence-based and documented decision-making process shall be applied with regard to all stages of the management of radioactive waste, based on scientific information, risk analysis and optimisation of resources.

The above-mentioned principles are strictly correlated with the objective of sustainable development, which meets the present needs without compromising the ability of future generations to meet their own needs. In addition to the internationally accepted principles, radioactive waste management is implemented in accordance with the following principles:

(a) Transparency regarding all aspects of radioactive waste management: All radioactive waste management activities shall be conducted in an open and transparent manner and the public shall have access to information regarding waste management where this does not infringe on the security of radioactive material.

(b) The precautionary principle apply: Where there is uncertainty about the safety of an activity a conservative approach shall be adopted.

(c) Co-operative governance and efficient national co-ordination: waste management shall be managed in a manner that prevents duplication of effort and maximises coordination.

(d) International cooperation: The Government recognises that it shares a responsibility with other countries for global and regional radioactive waste management issues. Its actions shall follow the principles in the national policy and in relevant regional and international agreements.

(e) Public Participation: Radioactive waste management shall take into account the interests and concerns of all interested and affected, when decisions are being made.

(f) Capacity building and education: The Government shall create opportunities to develop people’s understanding, skills and general capacity concerning radioactive waste management.

(g) The Government will use these principles to develop, test and apply its policy. The Government will also use the principles for decision-making and, where necessary, amend laws and regulations.

4.2 Allocation of responsibilities (Articles 4(1), 4(2), 4(4), 5(1), 7(1), 9 and 12(1)(g))

The RA, as described in section 5.2 of this report, has the ultimate responsibility for management of radioactive waste generated in the country **(Article 4(1))**.

Where radioactive waste is shipped for processing or reprocessing from the Republic to a 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 Republic **(Article 4(2))**.

Radioactive waste which is produced in the Republic shall be disposed of in the Republic, unless at the time of shipment an agreement, taking into account the criteria established by the EC in accordance with Article 16(2) of Directive 2006/117/Euratom [Ref. 11], has entered into force between the Republic and another Member State or a third country to use a disposal facility in one of them **(Article 4(4))**.

Prior to the shipment to a third country, the Republic shall inform the EC of the content of any such agreement and take reasonable measures to assure that:

(a) the country of destination has concluded an agreement with the Community covering radioactive waste management or is a party to the Joint Convention;

(b) the country of destination has radioactive waste management and disposal programmes with objectives representing a high level of safety equivalent to those established by the Regulations; and

(c) the disposal facility in the country of destination is authorised for the radioactive waste to be shipped, is operating prior to the shipment, and is managed in accordance with the requirements set down in the radioactive waste management and disposal programme of that country of destination **(Article 4(4))**.

The national policy on the management of radioactive waste provides for the allocation of responsibilities related to the management of radioactive waste:

(a) The MLWSI has been assigned the responsibility as the RA for the administration of the legislation on the management of radioactive waste, and under this legislation, the Radiation Inspection and Control Service (RICS) of the Department of Labour Inspection

(DLI), which carries out licensing, control, inspection, and enforcement activities, has been established (as described in section 5.2 of this report).

(b) The RA is functionally separate from any other body/organisation linked with the promotion or use of nuclear energy or other radioactive materials or with the management of radioactive waste, in order to ensure effective independence from undue influence on its regulatory function. It is understood that the utilisation of radioactive sources by the RA for the purpose of carrying out its regulatory tasks does not affect its independence.

(c) The MLWSI is responsible for policy-making and establishing and implementing the legal framework, ensuring cooperative governance, ensuring a nationally-coordinated graded approach to the management of radioactive waste, fulfilling national obligations in terms of international agreements where applicable, reviewing and updating the national policy and strategy for the Safe and Responsible Management of Radioactive Waste, ensuring compliance with this policy, and ensuring implementation of the strategy.

(d) The generators of radioactive waste have the primary responsibility for the safe management of the waste they generate and that responsibility cannot be delegated. Under specific circumstances, this responsibility lies with the license holders to whom the responsibility has been entrusted/allocated by the RA. The waste generators/operators shall be responsible for the technical, financial, and administrative management of radioactive waste within the national regulatory framework and within any applicable governmental arrangements, and for the development and ongoing review of their own specific radioactive waste management system.

(e) The Government has the ultimate responsibility for the long-term management of radioactive waste.

(f) The Government shall take responsibility for the management of radioactive waste where the generator no longer exists (ownerless radioactive waste) and for the control over closed disposal facilities and the funding thereof, where applicable.

(g) Where radioactive waste is shipped for processing or reprocessing from the Republic to a 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, remains with the Republic.

The national strategy provides for the allocation of responsibilities for strategy development and implementation:

(a) The MLWSI is responsible for the long-term strategic planning.

(b) RICS/DLI manages the national inventory of the existing radioactive waste in the country. The inventory is kept up to date and appropriate records are maintained.

(c) RICS/DLI adopts the waste categorisation scheme in use, based on the end-point solution(s) identified for radioactive waste, and according to the IAEA General Safety Guide No. GSG-1 "Classification of radioactive waste", IAEA, Vienna, 2009 [Ref. 12].

(d) Services for the collection, characterisation, transport, and processing of all radioactive waste generated in the Republic of Cyprus are contracted on an ad-hoc basis and performed under the control of RICS.

(e) RICS reports to the Government on an annual basis concerning the activities performed in the reporting period, the amounts and types of radioactive waste that have been managed and on any other relevant issues.

(f) If any other governmental or privately-owned bodies are involved in any way in the management of radioactive waste, this should be done in a co-operative manner and be responsible to enforce compliance with legal requirements and advising the Government as appropriate.

4.3 Responsibilities of the license holders (Article 7)

The prime responsibility for radiation protection and nuclear safety within his premises or installations, including the safety of radioactive waste management facilities and/or activities, rests with the license holder, and this responsibility cannot be delegated.

A license holder is responsible for carrying out his activities ensuring primarily safety and security of the sources or irradiators under his control, according to the conditions of the license, applying the basic principles of radiation protection, and taking all appropriate measures to protect workers, patients, members of the public, properties and the environment from risks arising from the use of ionising radiation. A license holder is obliged under the Law to regularly assess, verify and continuously improve, as far as is reasonably achievable, the safety of the radioactive waste management facility or activity in a systematic and verifiable manner. This shall be achieved through an appropriate safety assessment, other arguments and evidence.

As part of the licensing of a facility or activity, the safety demonstration shall cover the development and operation of an activity and the development, operation and decommissioning of a facility or closure of a disposal facility as well as the post-closure phase of a disposal facility. The extent of the safety demonstration shall be commensurate with the complexity of the operation and the magnitude of the hazards associated with the radioactive waste and spent fuel, and the facility or activity. The licensing process shall contribute to safety in the facility or activity during normal operating conditions, anticipated operational occurrences and design basis accidents. It shall provide the required assurance of safety in the facility or activity. Measures shall be in place to prevent accidents and mitigate the consequences of

accidents, including verification of physical barriers and the license holder's administrative protection procedures that would have to fail before workers and the general public would be significantly affected by ionising radiation. That approach shall identify and reduce uncertainties.

The existing legislation on radiation protection and nuclear safety also provides that a license holder shall take all necessary technical and administrative measures, in relation to the license granted to him, for securing safety and health of any individual and for protecting the use or property of any person and the environment and shall establish and implement integrated management systems, including quality assurance, which give due priority for overall management of radioactive waste to safety and are regularly verified by the competent RA. The licensee may appoint other persons to carry out actions or to carry out tasks related to his obligations as a licensee, but the licensee shall retain the responsibility for such actions, tasks or omissions himself and has the overall responsibility for the radiation protection and nuclear safety. A licensee shall notify in writing RICS of his intention to introduce modifications to any practice or source for which he is licensed, and whenever the modifications will have significant implications on safety and health matters, on the protection of use of property of any person and on the protection of the environment, he shall not carry out any modification unless he has a new license for this purpose.

Moreover, a licensee shall establish an appropriate management and administrative system, commensurate with the size of the undertaking or practice licensed, and a quality assurance programme, as appropriate. Risk assessment and an assessment of the effectiveness of protective measures applied by the licensees, in relation to sources of ionising radiation, shall be made at different stages, including the decision for locating, design, manufacture, construction assembly, commissioning, operation, maintenance, decommissioning or demolition, as appropriate. A licensee shall ensure that all personnel who has responsibility for protection from ionising radiation are appropriately trained and qualified so that they understand their responsibilities and perform their duties with judgement and according to the specified procedures.

Finally, license holders are required to provide for and maintain adequate financial and human resources to fulfill their obligations with respect to the safety of radioactive waste management.

The RA carries out inspections in order to verify compliance with the existing legislation.

Additionally to the above, the national strategy provides for the compliance of licensees with requirements/obligations/principles:

(a) The licensees shall adopt measures for preventing or, where this is not achievable, minimising as reasonably achievable the quantity of radioactive waste generated by their activities, both in terms of activity and volume, by means of appropriate design measures and of operating and decommissioning practices. The licensees shall explore the possibility

of reuse or recycle the whole or part of the radioactive waste they produce. The minimisation of the effects of disposals on environment and members of the public shall be one of the main priorities of licensees;

(b) The licensees shall apply the principles of justification, optimisation, and dose limitation, and take all appropriate measures, as necessary, to protect workers, patients, the public, property and the environment from risks arising from the use of ionising radiation, including activities leading to the generation and management of radioactive waste;

(c) The licensees shall regularly assess, verify and continuously improve to the reasonably achievable extent the safety of the radioactive waste management facility in a systematic and verifiable manner;

(d) The licensees shall establish and implement integrated management systems, including quality assurance, in order to give due priority to the safety of the overall radioactive waste management scheme; and

(e) The licensees shall have measures in place to prevent accidents and mitigate the consequences of accidents, including verification of physical barriers and the license holder's administrative protection procedures that would have to fail before workers and the general public would be significantly affected by ionising radiation.

4.4 Waste classification system (Article 12(1)(c))

A national radioactive waste classification scheme has been adopted and supports the arrangements on the management of radioactive waste, taking fully into account the specific types and properties of radioactive waste existing in the Republic. For the purposes of implementing the national policy and establishing a national strategy for radioactive waste management, the Republic of Cyprus follows the guidelines of IAEA regarding the definition and classification of radioactive waste, as described in the IAEA General Safety Guide No. GSG-1 "Classification of radioactive waste", IAEA, Vienna, 2009 [Ref. 12].

4.5 National inventory of radioactive waste (Article 12(1)(c))

As required by the Waste Directive, the NAPRO for the responsible and safe management of radioactive waste includes an inventory of all radioactive waste and estimates for future quantities, in accordance with appropriate classification of the radioactive waste.

RICS/DLI maintains the national inventory of the existing radioactive waste in the country. The inventory is documented in a systematic manner, taking into account the characteristics and the location of the waste, kept up to date and appropriate records are maintained. The national

inventory is structured based on the particular needs in the Republic of Cyprus, and is transformed into different waste streams, where all radioactive waste is brought under different management routes. The management routes cover the steps from generation of the waste, via different treatments, if applicable, towards their respective endpoints.

As described elsewhere in this document, small volumes of short-lived radioactive waste from medical or research applications is stored for decay until its activity is low enough to be disposed as normal waste. Medical centres in Cyprus use about 6 TBq of Tc-99m and 3 TBq of I-131 per year. Other isotopes such as In-111, I-125, Ga-67, and Th-201 are also used in medical centres and specialised laboratories but both their volumes and activity concentrations are very small (a few GBq per year in total). Nearly all of these enter the sewage system, as liquid waste. Due to the nature of these radioisotopes (short half-life), and/or the very small quantities used, there is no need to segregate them from regular waste. The import, usage and release of these isotopes are licensed and the regulatory authority is informed at each step.

DSRS for which further use is foreseen are not considered as radioactive waste and the regulatory authority requires that licensees shall have in place repatriation agreements for DSRS with manufacturers/suppliers in other countries and the endpoint is the responsible organisation/company in the receiving country. Moreover, the possibility of contracting the re-use of these DSRS to suppliers/manufacturers abroad that manufacture small sources for educational or research purposes shall be explored. Finally, the possibility of discovering orphan sources or other contaminated materials in metal scrap yards, due to the isolation of the country by land from other countries, is not considered as high. It is however possible that the number of lightning rods and smoke detectors disposed of to increase in future due to renovation works taking place in buildings and replacement with other similar equipment of modern technology.

An indicative summary (main components) of the national inventory of radioactive waste in the Republic of Cyprus is displayed in the Annex. The full inventory can be found as an attachment in the National Programme, also submitted to the EC under the Council Directive 2011/70/Euratom.

4.6 End points – Waste management routes

The disposal of radioactive waste is allowed only for radioactive waste generated within the territory of the Republic of Cyprus and is accomplished in an authorised facility. Radioactive waste generated in the Republic may not be disposed off within its territory, if at the time of shipment an agreement has entered into force between the Republic and another Member State or a third country to use a disposal facility in one of them.

The regulatory authority approves the import of sealed radioactive sources only on the condition that they are accepted back by the supplier/manufacturer at the end of their useful

life (repatriation of DSRS). DSRS are not considered as radioactive waste. Only those DSRS for which no further use is foreseen or considered in the Republic of Cyprus are ultimately declared as radioactive waste.

(a) DSRS for repatriation

DSRS under repatriation or to be repatriated are under regulatory control from their arrival in the Republic till shipment to the manufacturer/supplier. Where take-back agreements are in place between licensees in the Republic and manufacturers/suppliers in other countries abroad, the endpoint is the return to the receiving country and responsible organisation/company in that country.

(b) DSRS for disposal

DSRS that cannot be repatriated/exported are stored at the territory of the Republic of Cyprus until they can be disposed of at a national or multinational facility. Currently, all DSRS, such as cobalt teletherapy units and small sources from medical applications, lightning rods, americium smoke detectors, educational sources etc. are stored in a licensed temporary storage until a final disposal solution is decided by the Government.

(c) Radioactive waste from medical or research nuclear applications (hospitals, laboratories, etc.)

Whenever appropriate, short-lived radioactive waste originating from medical or research applications (e.g. hospitals conducting nuclear medicine practices or research laboratories) is stored for decay until its activity is low enough to be disposed as normal waste, otherwise to be exported/shipped abroad.

Decay storage is an acceptable method by which some radioactive wastes, in some circumstances, are best managed, at least as an interim step to final disposal. Decay storage is not acceptable if the sole purpose of the storage is to defer waste management costs to the future.

A license holder (i.e. waste generator) is obliged to make an initial assessment on whether decay storage is the most appropriate method for the type of waste he produces and the decay storage needs to be licensed by the regulatory authority as part of the licensee's waste management plan. A number of factors need to be taken into account, including operators´ dose, the security of storage facilities, the length of time required in order to meet the desired reduction in activity etc. For situations where the waste is exempt, no regulatory submission is required.

Other radioactive waste from this type of facilities will be treated and conditioned for disposal, accordingly. Up to now, there was no case of export/shipment abroad of short-lived radioactive waste originating from medical or research applications.

(d) Orphan sources/contaminated material

A system exists for the control of orphan sources and other radioactively-contaminated material. These radioactive materials will be managed and disposed of, accordingly. Currently, as explained above, all DSRS, lightning rods, smoke detectors, education sources etc. are stored in a licensed temporary storage until a final disposal solution is decided by the Government.

(e) NORM

NORM was produced in the past due to the activities of a decommissioned fertiliser plant at Vasilikos area in the southern coast of Cyprus. Part of it, as well as DSRS and solid waste from decommissioning were sent abroad for treatment and proper disposal, while the rest part is kept at the site of its generation, properly stabilised and covered with a plastic liner and soil, and is under the supervision and monitoring of RICS. Future governmental plans to construct a natural gas liquidification terminal in the area, and also any future plans to conduct activities that could lead to the NORM production or treatment, such as NORM originating from the newly-developed hydrocarbons exploration and exploitation industry, should be also taken into consideration.

5 The national framework (Article 5)

The RA has established and maintains a national legislative, regulatory and organisational framework ('national framework') for radioactive waste management that allocates responsibilities and provides for coordination between relevant competent bodies, and provides for the following:

(a) a NAPRO for the implementation of radioactive waste management policy;

(b) national arrangements for the safety of radioactive waste management;

(c) a system of licensing of radioactive waste management activities, facilities or both, including the prohibition of radioactive waste management activities, of the operation of a radioactive waste management facility without a licence or both and, if appropriate, prescribing conditions for further management of the activity/facility;

(d) a system of appropriate control, a management system, regulatory inspections, documentation and reporting obligations for radioactive waste management activities,

facilities or both, including appropriate measures for the post-closure periods of disposal facilities;

(e) enforcement actions, including the suspension of activities and the modification, expiration or revocation of a licence together with requirements, if appropriate, for alternative solutions that lead to improved safety;

(f) the allocation of responsibility to all the persons involved in the different steps of radioactive waste management; the primary responsibility for the radioactive waste rests with their generators or to a licence holder to whom this responsibility has been entrusted by the RA;

(g) national requirements for public information and participation; and

(h) the financing scheme(s) for radioactive waste management.

The RA ensures that the national framework is improved where appropriate, taking into account operating experience, insights gained from the decision-making process, and the development of relevant technology and research.

5.1 Legal framework (Articles 5(1) and 6(3))

The regulatory basis for radiation protection, nuclear safety (including nuclear security), and radioactive waste management comprises of the Protection from Ionising Radiation and Nuclear Safety Laws of 2002 to 2011. The basic Law was enacted on 12 July 2002 (Law 115(I)/2002) [Ref. 5], and amended twice, in 2009 (Law 8(I)/2009) [Ref. 6] and in 2011 (Law 127(I)/2011) [Ref. 7]. Various sets of Regulations are issued under the Law, namely:

(a) The Protection from Ionising Radiation (Basic Principles) Regulations of 2002 (P.I. 494/2002) [Ref. 13];

(b) The Protection from Ionising Radiation (Informing the Public about Measures to be applied in Case of Emergency) Regulations of 2002 (P.I. 495/2002) [Ref. 14];

(c) The Protection from Ionising Radiation (Medical Exposure) Regulations of 2002 (P.I. 497/2002) [Ref. 15];

(d) The Protection from Ionising Radiation (Control of High-Activity Sealed Radioactive Sources and Orphan Sources) Regulations of 2006 (P.I. 30/2006) [Ref. 16];

(e) The Protection from Ionising Radiation (Supervision and Control of Shipments of Radioactive Waste and Spent Fuel) Regulations of 2009 (P.I. 86/2009) [Ref. 17]; and

(f) The Protection from Ionising Radiation and Nuclear Safety (Responsible and Safe Management of Spent Fuel and Radioactive Waste) Regulations of 2014 (P.I. 178/2014) [Ref. 2].

The above legislative framework is fully in line with the European Atomic Energy Community (EURATOM) Acquis and the relevant international standards. The EURATOM Treaty [Ref. 18] and all relevant EU regulations and decisions, conventions and other instruments ratified or signed by the EU apply directly. The above framework shall be revised by 2018, in order to be harmonised with the provisions of Directives 2013/59/Euratom (New BSS Directive) [Ref. 19], 2013/51/Euratom (Drinking Water Directive) [Ref. 20] and 2014/87/Euratom (Nuclear Safety amending Directive) [Ref. 21].

Furthermore, the Republic of Cyprus has ratified, signed or participates in a number of international conventions, protocols, agreements and other instruments in the field of radiation protection and nuclear safety, namely:

(a) The Conventions on Early Warning and Assistance in case of a Nuclear Accident, ratified with the Conventions on Early Warning and Assistance in the case of Nuclear Accident (Ratification) Law of 1988 (Law 164/1988) [Ref. 22];
(b) The Convention on Nuclear Safety, ratified with the Convention on Nuclear Safety (Ratification) Law of 1998 (Law 20(III)/1998) [Ref. 23];
(c) The Convention on Physical Protection of Nuclear Material and Nuclear Installations and its 2005 Amendment, ratified with the Convention on Physical Protection of Nuclear Material and Nuclear Installations (Ratification) Laws of 1998 and 2012 (Law 3(III)/1998 and Law 38(III)/2012) [Ref. 24];
(d) The Comprehensive Nuclear Test Ban Treaty, ratified with the Comprehensive Nuclear Test Ban Treaty (Ratification) Law of 2003 (Law 32(III)/2003) [Ref. 25];
(e) The Treaty on the Non-Proliferation of Nuclear Weapons, ratified with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (Ratification) Law of 1970 (Law 8/1970) [Ref. 26];
(f) The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management [Ref. 3], ratified with the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Ratification) Law of 2009 (Law 13(III)/2009) [Ref. 9];
(g) The Safeguards Agreement between the Republic of Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non–Proliferation of Nuclear Weapons, ratified with the Safeguards Agreement between the Republic of Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non–Proliferation of Nuclear Weapons (Ratification) Law of 1973 (Law 3/1973) [Ref. 27];
(h) The Protocol Additional to the Agreement between the Republic of Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non–Proliferation of Nuclear Weapons, ratified with the Protocol

Additional to the Agreement between the Republic of Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (Ratification) Law of 2002 (Law 27(III)/2002) [Ref. 28];

(i) The International Convention for the Suppression of Acts of Nuclear Terrorism, ratified with the International Convention for the Suppression of Acts of Nuclear Terrorism (Ratification) Law of 2007 (Law 44(III)/2007) [Ref. 29];

(j) The Agreement between the European Community of Atomic Energy, the Member States that do not possess nuclear weapons and the International Atomic Energy Agency, in application of Annexes 1 and 4 of Article III of the Treaty for the non Proliferation of Nuclear Weapons and its Additional Protocol, ratified with the Agreement between the European Community of Atomic Energy, the Member States that do not possess nuclear weapons and the International Atomic Energy Agency, in application of Annexes 1 and 4 of Article III of the Treaty for the non Proliferation of Nuclear Weapons and its Additional Protocol (Ratification) Law of 2007 (Law 37(III)/2007) [Ref. 30].

The Republic of Cyprus is also a member of IAEA, the Nuclear Suppliers Group and the Australian Group, and applies the relevant international standards for the transport of radioactive materials, namely:

(a) The IAEA Standards for Transport of Radioactive Materials [Ref. 31];
(b) The United Nations Recommendations on the Transport of Dangerous Goods [Ref. 32];
(c) The International Maritime Dangerous Goods Code (IMDGC) [Ref. 33];
(d) The International Civil Aviation Organisation (ICAO) Technical Instructions on the Safe Transport of Dangerous Goods [Ref. 34]; and
(e) The Universal Postal Union (UPU) Convention [Ref. 35].

The above legislation applies to both for natural or artificial sources of radiation and covers all aspects related to the use of ionising radiation and nuclear safety, such as:

(a) Occupational exposure, including outside workers;
(b) Public exposure;
(c) Medical exposure;
(d) Control of High-Activity Sealed Radioactive Sources and Orphan Sources;
(e) Supervision and Control of Shipments of Radioactive Waste and Spent Fuel;
(f) Safe and responsible management of radioactive waste; and
(g) Emergency preparedness and response.

The above legislation provides, inter alia, for:

(a) The establishment of the RA for radiation protection and nuclear safety;
(b) Justification, optimisation of protection and dose limitation for all practices;

(c) The notification and licensing of practices and sources in relation to custody, use, manufacture, supply, handling, distribution, storage, import, export, disposal, recycling, commissioning, decommissioning etc.;
(d) The establishment of a Technical Licensing Committee (TLC), which advises the MLWSI on licensing matters and approves/suggests the conditions of licenses;
(e) Appeals;
(f) Obligations of employers or license holders;
(g) Appointment and powers of the chief inspector and of inspectors;
(h) Enforcement actions and penalties;
(i) The design, erection, commissioning, and decommissioning of nuclear installations;
(j) The storage, shipment, and disposal of radioactive waste, spent fuel or disused sources;
(k) The categorisation of workplaces and workers;
(l) Individual monitoring and area monitoring;
(m) Health surveillance of workers;
(n) Environmental radioactivity monitoring;
(o) Disposal of radioactive waste and discharges;
(p) Radiological or nuclear emergency preparedness and response;
(q) Transport or shipment of radioactive materials; and
(r) The power of the Council of Ministers to issue regulations under the Law.

The process of establishing and revising legislation in the Republic of Cyprus is as following:

(a) Drafting of the legislation by the RA;
(b) Consultation with all stakeholders/interested parties and the public;
(c) Legal vetting by the Legal Service of the Republic (Attorney General Office);
(d) Approval of draft legislation or regulations by the Council of Ministers;
(e) Examination of the draft legislation in the respective Committee of the House of Representatives (Parliament);
(f) In the case of a set of regulations, issuance by the Council of Ministers;
(g) Approval by the House of Representatives; and
(h) Publication in the Official Gazette of the Republic (entering into force).

5.2 Regulatory framework (Articles 5 and 6)

5.2.1 The system of authorisation (notification, registration and licensing)

The existing legislation provides that no person shall:

(a) use in any manner, handle, possess, produce, store, convey, cause to be conveyed, supply, transport, import, export, recycle, reuse or dispose any radioactive substance or radioactive waste,

(b) manufacture, use, store, import, export, recycle, reuse or dispose any irradiating apparatus,
(c) erect, construct, use, dismantle, or demolish any nuclear installation, or any premises,
(d) carry out any activity or practice involving radioactive substances,
(e) carry out any activity or practice involving irradiating apparatuses,
(f) deliberately add radioactive substances during the production and manufacture of medicinal products and import or export such goods,
(g) deliberately add radioactive substances during the production and manufacture of consumer goods and import or export such goods,
(h) deliberately administer radioactive substances to persons and, in so far as radiation protection of human beings is concerned, animals for the purpose of medical or veterinary diagnosis, treatment or research,
(i) use X-ray equipment or radioactive sources for industrial radiography or for processing of products, or for research, or for the exposure of persons for medical treatment, and use accelerators, except electronic microscopes,
(j) exploit or close down uranium mines,

unless he has a license, granted to him by the MLWSI, after applying in writing, or the activity concentration and the total activity of the radioactive substance are below the prescribed clearance levels or the irradiating apparatus is not capable of producing certain radiation dose rates at a certain distance.

The license is granted on conditions, including the condition that the supplier/manufacturer shall accept the responsibility to receive back the source for disposal at the end of its useful life.

The granting of a license shall constitute a necessary pre-condition for the granting of a building or town planning permit, but such document shall not bind the RA in the exercise of its authority.

The conditions shall be specified as the case may be and shall refer, among others, to:
(a) the quantitative assessment of risks associated with the practice,
(b) the control of radioactive substances,
(c) the installation and maintenance of efficient systems for the detection, measurement and recording of the presence and intensity of ionising radiation of any type, emitted from anything on the premises, or by anything that is conveyed, carried away or discharged,
(d) the design, location, construction, installation, operation, modification and maintenance of any premises or equipment containing radioactive substances, or any irradiating apparatus or any nuclear installations,
(e) the preparations for dealing with, and the measures to be taken on the occurrence of a radiological accident or a radiological emergency, and
(f) the handling, processing, transport, storage and disposal of radioactive materials and irradiating apparatuses.

The licensee/end-user can be different from the importer/distributor of the source/device. The licensee has the obligation of operating, servicing and calibrating the device according to the instructions of the manufacturer (including leak test frequency for the device) and of carrying out his activities in compliance with the provisions of the legislation and the general principles for protection against ionising radiation in his premises/installations. These activities (measurement, guidance, information, training, etc.) shall be performed only by qualified persons ("Qualified Experts"), and if these persons are not available internally in the undertaking, then shall be hired from the private sector.

The appropriate application form shall be used for applying for a license. The applicant shall submit to RICS/DLI his application together with all relevant technical information (source official certificate, source type, serial number, source manufacturer, source supplier/distributor, end user, purpose of use etc.), at least 30 days prior to commencing the practice. This requirement also applies in the case of devices/equipment with embedded sources. If the MLWSI is of the opinion that the information submitted is not enough/satisfactory for making a decision, he may request by writing to the applicant, further information specified in his letter.

The applications are examined by the RA, and the TLC, which advices the MLWSI, in order to set up, change or make a decision regarding the license. The TLC comprises of representatives and/or technical advisors from five ministries, while representatives of local authorities may participate as observers. The TLC is chaired by the representative of the MLWSI.

The above procedure is also followed in the case when radioactive waste is produced from any type of practice. Only those DSRS for which no further use is foreseen are declared as radioactive waste.

A license shall be granted only to natural or legal persons and shall not be transferred to other persons.

The MLWSI may also grant licenses, based on general conditions which have already been approved by the TLC.

Respective fees apply for processing the application and granting of the license. The licensing procedure for the submission of the application for a license and the information required shall be specified in a Notice of the MLWSI published in the Official Gazette of the Republic and is normally completed in no more than 30 days from receipt of the complete application and all necessary documentation. The period for which a license is granted may vary according to the type of practice(s) for which is granted.

Moreover, the technical support organisations (TSO's), such as the Qualified Experts (experts in radiation protection and nuclear safety), dosimetry services, radiation protection and nuclear safety training experts, radioactivity monitoring laboratories etc. need to be approved by the RA, after applying in writing.

Finally, this legislation is implemented following a graded approach and it allocates responsibilities and provides for coordination between relevant bodies.

The MLWSI has appointed a Chief Inspector and Inspectors, for the enforcement of the Law. The Inspectors and the Chief Inspector are empowered to enter freely and without prior notice any premise, except domestic premises, for which they have reason to believe it is necessary for them to enter, at any reasonable time, or is in a situation which in their opinion may pose imminent risk of serious health detriment, serious degradation of the environment, or serious loss of use of property. A graded approach is followed in the implementation of the provisions of legislation for inspection and assessment.

If an Inspector is of the opinion that a person is contravening any provision of the Law, or of any regulations issued under the Law, he may serve him a notice, referred to as an "improvement notice", requiring that person to remedy the contravention, or, as the case may be, the matters causing it, within a stated period of time or a "prohibition notice", prohibiting forthwith the use of those premises, or installation, or equipment, or place of work, or the carrying out of practices or other activities, until the risk involved is eliminated to the Inspector's satisfaction.

The MLWSI may amend the conditions of a licensed granted to a license holder at any time he deems appropriate, by adding new or amending existing conditions or by revoking or cancelling the license. A license may also be revoked at any time by the MLWSI.

The Law also provides for offences and penalties. Any person who fails to comply with any duty imposed on him under the Law or regulations issued under the Law, shall be guilty of an offence and shall be liable to a fine not exceeding thirty-four thousand Euros or to imprisonment not exceeding two years or to both such penalties.

5.2.2 Establishment of the regulatory authority

The MLWSI, acting through the RICS/DLI, is the RA in the Republic of Cyprus for radiation protection and nuclear safety and has the responsibility for the administration of the relevant legislation and authorisation of all sources and practices involving risks of exposure to ionising radiation or release of radioactive materials in the environment.

RICS was established in 2002 within the DLI, in the framework of the implementation of the Law, aiming at the protection of individuals and the environment against risks arising from ionising radiation during the use of sources or exposure and from risks due to dispersion of radioactive substances or contamination, including the protection against the dangers arising from ionising radiation from nuclear installations.

The RA is functionally separate from any other body or organisation concerned with the promotion or utilisation of nuclear energy or radioactive material, including electricity production and radioisotope applications, or with the management of radioactive waste, in order to ensure effective independence from undue influence on its regulatory function.

Based on the above legislation, the RA has the necessary legal powers and human and financial resources to fulfill its obligations under the national legislative framework. RICS carries out licensing, inspections and enforcement activities, which are financed through the annual budget of the DLI.

RICS/DLI is currently staffed with one senior labour inspection officer and four labour inspection officers, with science or engineering background and training and experience in radiation protection and nuclear safety matters.

5.3 Organisational framework (Articles 5 and 6)

RICS/DLI performs, among other things, the following functions:

(a) recommends the prescription of safety and health standards for practices which may cause health detriment arising from exposure to ionising radiation or may cause harm to the environment or may give rise to loss of use of property due to dispersion of radioactive substances, or due to radioactive contamination;

(b) inspects, for the purposes of compliance with the legislation in force, any practices or installations in which activities are carried on that may cause health detriment arising from exposure to ionising radiation or may cause harm to the environment or may give rise to loss of use of property due to dispersion of radioactive substances, or due to radioactive contamination;

(c) coordinates or ensures the existence of educational, scientific or other type of organisations for the purpose of providing of instructions for, or the education or training of apprenticeship or of other relevant services in respect of protection against risks from ionising radiation;

(d) coordinates or ensures, in collaboration with other Services when necessary, that a national system and plans for the prevention of or response to radiological accidents and radiological emergencies are established;

(e) keeps appropriate registers, including inventories of sources of ionising radiation, of premises, of practices and of the exposed workers and the doses received;

(f) recommends the establishment of a national framework for nuclear safety and its improvement when appropriate, taking into account operating experience, insights gained from safety analyses for operating nuclear installations, development of technology and results of safety research, when available and relevant; and

(g) monitors the radiation levels in the air, soil, water, sea, foodstuff, feeding stuff, building materials, and other goods and products, and ensures the implementation of appropriate measures, as necessary.

Moreover, the RA shall ensure the implementation of the NAPRO for the management of spent fuel and radioactive waste, covering all types of spent fuel and radioactive waste under its jurisdiction and all stages of spent fuel and radioactive waste management from generation to disposal. The RA shall regularly review and update its NAPRO, taking into account technical and scientific progress as appropriate as well as recommendations, lessons learned and good practices from peer reviews.

As mentioned above, the MLWSI may be advised by the TLC, in order to set up, change or make a decision regarding the conditions of the license.

The RA is cooperating with and is supported in its duties by other institutions and laboratories, with capabilities in radioactivity analysis, measurement and dosimetry, namely:

(a) the Environmental and Food Radioactivity Laboratory of the State General Laboratory (SGL), established under the Ministry of Health, for laboratory environmental radioactivity analysis and measurements;

(b) the Secondary Standard Dosimetry Laboratory of the Nicosia General Hospital, Ministry of Health; and

(c) other laboratories for analytical spectroscopic radioactivity measurements.

The above laboratories have upgraded their monitoring capabilities with the procurement of new equipment, increasing manpower, having trained their personnel, participating in inter-comparison exercises etc. Moreover, the Environmental and Food Radioactivity Laboratory of the SGL has been recently accredited with ISO 17025.

If necessary, the RA may request assistance from institutions in other countries, the EU, the IAEA and other international organisations. A bilateral agreement with the Greek Atomic Energy Commission is in place, which covers all issues concerning the applications of ionising radiation and nuclear safety.

Appropriate arrangements have also been made for combating illicit trafficking and terrorism. In this context, customs and police officers involved have been trained in these matters and

appropriate detection equipment has been installed/procured and is in use in the major commercial ports and airports of the Republic of Cyprus. In addition, the Republic of Cyprus participates in all initiatives of the United Nations, the IAEA, the EU and the Global Initiative for Combating Nuclear Terrorism (GICNT).

Moreover, a comprehensive environmental radioactivity monitoring network is operated by the RA and is connected to the European Radiological Data Exchange Platform (EURDEP) platform. The automated ambient gamma dose rate monitoring network also acts as the early warning system in the country.

A fully operational emergency preparedness and response system in case of radiological or nuclear emergencies is in place. The national emergency preparedness and response action plan has been recently reviewed and updated.

The RA acts as the national contact point for IAEA, Incident and Trafficking Database (ITDB), EURATOM, and other relevant organisations and is the competent authority for various international conventions.

The national framework is maintained and improved, when necessary, taking into account operating experience, insights gained from safety analyses of operating installations involving the use of ionising radiation, any developments of technology and results of safety research.

6 The national programme on radioactive waste management (Articles 11, 12 and 15(4))

The NAPRO of the Republic [Ref. 36], which sets out how the Republic intends to implement its policy for the responsible and safe management of radioactive waste referred to in Article 4 of the Directive, forms a different document, complementary to the national policy and strategy document and the current national report document, and includes the following:

(a) the overall objectives of the national policy in respect of radioactive waste management;
(b) the significant milestones and clear timeframes for the achievement of those milestones in light of the over-arching objectives of the NAPRO;
(c) an inventory of radioactive waste;
(d) the concepts or plans and technical solutions for radioactive waste management from generation to disposal;
(e) the concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;
(f) the research and development activities that are needed in order to implement solutions for the management of radioactive waste;

(g) the responsibility for the implementation of the NAPRO and the key performance indicators to monitor progress towards implementation;
(h) an assessment of the NAPRO costs and the underlying basis and hypotheses for that assessment, which must include a profile over time;
(i) the financing scheme in force; and
(j) the transparency policy.

The NAPRO is prepared in accordance with Articles 11 and 12 of the Waste Directive, and is submitted to the EC as a separate document to this national report, in accordance with Articles 13 and 15(4) of the Directive.

7 Expertise and skills (Article 8)

Section 18A of the Law provides that all parties involved shall ensure that the education and training of their personnel with competences or obligations and responsibilities related to nuclear safety of nuclear installations is provided, in order to maintain and further develop expertise and skills in nuclear safety. This obligation under the Law includes the research and development activities to implement the NAPRO for the management of radioactive waste.

The RA ensures that the national framework requires all parties to make arrangements for education and training for their staff, as well as research and development activities to cover the needs of the NAPRO for radioactive waste management in order to obtain, maintain and to further develop necessary expertise and skills.

8 Financial resources (Article 9)

Section 17(10)(d) of the Law provides that the licence holders shall provide for and maintain adequate financial and human resources to fulfill their obligations regarding nuclear safety of nuclear installations.

The generators of radioactive waste have the primary responsibility for the safe management of the waste they generate and that responsibility cannot be delegated. Under specific circumstances, this responsibility lies with the license holders to whom the responsibility has been entrusted/allocated by the RA.

The waste generators/operators are responsible for the technical, financial, and administrative management of radioactive waste within the national regulatory framework and within any applicable government arrangements, and for the development and ongoing review of their own specific radioactive waste management system. Thus, the generators of radioactive waste shall bear all the costs of radioactive waste management from the production to disposal of such waste, including the cost of monitoring of such waste or waste storages (or in future,

repositories after their closure) and the cost of the required research and development. The export/shipment (or in future, processing, conditioning or treatment) of radioactive waste for disposal is paid for by the generator in the form of direct payments to the supplier/manufacturer of the sources or specialist organisations which carry out such activities, whatever applicable.

The RA ensures that the national framework requires that adequate financial resources are available when needed for the implementation of the NAPRO, especially for the management of radioactive waste, taking due account of the responsibility of radioactive waste generators.

The national policy and the NAPRO provide analytically for the financing schemes, needs and estimations:

(a) The Government shall ensure in due time the availability of financial, technical and human resources to maintain the sustainability of the radioactive waste management system in the country and to implement the radioactive waste management strategy as planned, including the availability of human and financial resources necessary for the RA to fulfill its obligations in connection with the national radioactive waste management framework;

(b) Taking into due account their responsibility, radioactive waste generators shall also ensure that adequate financial and human resources are available when needed to fulfill their obligations with respect to the safety of radioactive waste management and for the implementation of the national radioactive waste management programme.

As regards the ownerless radioactive waste, the Government will take responsibility for the management of radioactive waste where the generator no longer exists (ownerless radioactive waste) and for the provision of control over closed disposal facilities and the funding thereof, where applicable.

Where radioactive waste is shipped for processing or reprocessing from the Republic to a 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, remains with the Republic.

9 Transparency and information to the public (Article 10)

The Law requires that information in relation to nuclear safety is made available to the workers and the general public. The procedure for the adoption of new legislation involves consultation with all stakeholders and the public. Information is made available to the public in accordance with national legislation and international obligations. This information is made available to the public in accordance with national legislation and international obligations, provided that this does not jeopardise other interests such as, inter alia, security, recognised in national legislation or international obligations.

Also, the RA ensures that the public is given the necessary opportunities to participate effectively in the decision-making process regarding radioactive waste management in accordance with national legislation and international obligations. In fulfillment of this, the public is informed by the RA on the fields of its competence with a notification the Official Gazette of the Republic, in two newspapers of wide circulation in the Republic and on the internet, regarding:

(a) the impending decision;

(b) the nature of possible decisions or, where there is one, the draft decision;

(c) the place and the time that information associated with the impending decision are made available to the public; and

(d) the fact that any member of the public may submit to the RA views or representations within 35 days from the date of publication of the notice.

The RA informs the public of the views or representations of any person received through a notice published in two newspapers of wide circulation in the Republic and on the internet. Before taking a decision, the RA shall take due account of the views or representations received. The way in which the RA took into account the views or representations submitted shall be contained in a concise statement, which is kept in a record.

Furthermore, the national policy on the management of radioactive waste provides the following:

(a) Transparency and information to the public:

i. All radioactive waste management activities shall be conducted in an open and transparent manner, in compliance with current legislation and international obligations, and the public will be granted access to information regarding waste management, where this does not infringe upon national laws, security and defence.

ii. The license holders shall ensure that necessary information on the management of radioactive waste is made available to the workers and the general public.

(b) Decision-making and public participation:

i. An evidence-based and documented decision-making process shall be applied with regard to all stages of the management of radioactive waste.

ii. The documentation of the decision-making process as it relates to safety should be commensurate with the levels of risk (graded approach) and should provide a basis for decisions related to the management of spent fuel and radioactive waste. This should enable the identification of areas of uncertainty on which attention needs to be focused in an assessment of safety. Safety decisions should 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.

iii. Decision-making shall be based on proven scientific information and recommendations of the national RA (i.e. the MLWSI). Radioactive waste management shall take into account the interests and concerns of all interested and affected parties, when decisions are being made. The RA shall ensure that the public is given the necessary opportunities to participate effectively in the decision-making process regarding waste management.

iv. Where there is uncertainty about the safety of an activity, a conservative approach shall be adopted.

Moreover, the Republic of Cyprus is a contracting party to the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, known as the "Aarhus Convention". This Convention establishes a number of rights of the public, individuals and their associations, with regard to the environment, such as the right of everyone to receive environmental information that is held by public authorities ("access to environmental information"), the right to participate in environmental decision-making ("public participation in environmental decision-making"), and the right to review procedures to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general ("access to justice").

10 Self assessments and peer reviews (Article 14(3))

Under Article 14(3) of the Directive, Member States shall periodically, and at least every 10 years, arrange for self-assessments of their national framework, competent RA, NAPRO and its implementation, and invite international peer review of their national framework, competent RA and/or NAPRO with the aim of ensuring that high safety standards are achieved in the safe management of spent fuel and radioactive waste. The outcomes of any peer review shall be reported to the EC and the other Member States, and may be made available to the public where there is no conflict with security and proprietary information.

The Republic of Cyprus plans to complete its first self-assessment of the national framework, competent RA, NAPRO and its implementation, as well as to invite an international peer review, in 2016.

In this framework, the NAPRO shall be regularly reviewed and updated, taking into account technical and scientific progress, as appropriate, as well as recommendations, lessons learned and good practices from the above mentioned peer review.

11 References and access to relevant supporting documentation

The following references have been made throughout the text of this report:

[1] Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste

[2] The Protection from Ionising Radiation and Nuclear Safety (Responsible and Safe Management of Spent Fuel and Radioactive Waste) Regulations of 2014 (P.I. 178/2014)

[3] The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

[4] European Nuclear Safety Regulators Group, Final Guidelines for MS Reports to the Waste Directive, HLG_p(2014-27)_137

[5] The Protection from Ionising Radiation Law of 2002 (Law 115(I)/2002)

[6] The Protection from Ionising Radiation (Amendment) Law of 2009 (Law 8(I)/2009)

[7] The Protection from Ionising Radiation and Nuclear Safety (Amendment) Law of 2011 (Law 127(I)/2011)

[8] The national policy and strategy on the safe and responsible management of radioactive waste

[9] The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Ratification) Law of 2009 (Law 13(III)/2009)

[10] Fundamental safety principles: Safety Fundamentals No. SF-1, IAEA, Vienna (2006)

[11] Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel, OJ L 337, 5.12.2006, p. 21–32

[12] IAEA General Safety Guide No. GSG-1 “Classification of radioactive waste”, IAEA, Vienna, 2009

[13] The Protection from Ionising Radiation (Basic Principles) Regulations of 2002 (P.I. 494/2002)

[14] The Protection from Ionising Radiation (Informing the Public about Measures to be applied in Case of Emergency) Regulations of 2002 (P.I. 495/2002)

[15] The Protection from Ionising Radiation (Medical Exposure) Regulations of 2002 (P.I. 497/2002)

[16] The Protection from Ionising Radiation (Control of High-Activity Sealed Radioactive Sources and Orphan Sources) Regulations of 2006 (P.I. 30/2006)

[17] The Protection from Ionising Radiation (Supervision and Control of Shipments of Radioactive Waste and Spent Fuel) Regulations of 2009 (P.I. 86/2009)

[18] The EURATOM Treaty

[19] Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom

[20] Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption

[21] Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations

[22] The Conventions on Early Warning and Assistance in the case of Nuclear Accident (Ratification) Law of 1988 (Law 164/1988)

[23] The Convention on Nuclear Safety (Ratification) Law of 1998 (Law 20(III)/1998)

[24] The Convention on Physical Protection of Nuclear Material and Nuclear Installations (Ratification) Laws of 1998 and 2012 (Law 3(III)/1998 and Law 38(III)/2012)

[25] The Comprehensive Nuclear Test Ban Treaty (Ratification) Law of 2003 (Law 32(III)/2003)

[26] The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (Ratification) Law of 1970

[27] The Safeguards Agreement between Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (Ratification) Law of 1973 (Law 3/1973)

[28] The Protocol Additional to the Agreement between Cyprus and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (Ratification) Law of 2002 (Law 27(III)/2002)

[29] The International Convention for the Suppression of Acts of Nuclear Terrorism (Ratification) Law of 2007 (Law 44(III)/2007)

[30] The Agreement between the European Community of Atomic Energy, the Member States that do not possess nuclear weapons and the International Atomic Energy Agency, in application of Annexes 1 and 4 of Article III of the Treaty for the non Proliferation of Nuclear Weapons and its Additional Protocol (Ratification) Law of 2007 (Law 37(III)/2007)

[31] The IAEA Standards for Transport of Radioactive Materials

[32] The United Nations Recommendations on the Transport of Dangerous Goods

[33] The International Maritime Dangerous Goods Code (IMDGC)

[34] The International Civil Aviation Organisation (ICAO) Technical Instructions on the Safe Transport of Dangerous Goods

[35] The Universal Postal Union (UPU) Convention

[36] The National Programme of the Republic of Cyprus on the responsible and safe management of spent fuel and radioactive waste

Access to the above references is provided through the website of RICS/DLI at the address www.mlsi.gov.cy/dli.

12 RICS/DLI contact details

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