



**Commission for the Protection
From Ionising and Non-Ionising Radiation**

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**Annual report of the Commission for the
Protection from Ionising and Non-Ionising Radiation for 2023**

Pursuant to Article 11(6) of the Nuclear Safety and Radiation Protection Act, Cap 585 the Commission for the Protection from Ionising and Non-ionising Radiation is presenting this report for the attention of the Minister.

This is the sixth report produced by the Commission and covers the period from 1st January 2023 to 31st December 2023.

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1 Executive Summary

In its fifth year of operation, the Commission for the Protection from Ionising and Non-Ionising Radiation (Commission) demonstrated unwavering commitment to fulfill Malta's European and International regulatory obligations. Operating under the Ministry for Inclusion, Voluntary Organisations, and Consumer Rights, the year 2023 saw the Commission expanding its activities, enabled by the strategic hiring of additional technical staff.

Throughout the year, the Commission ensured Malta's compliance with European Commission (EC) standards, including the Basic Safety standards, EURATOM Nuclear Safeguards, Nuclear Safety, and Radioactive Waste Management directives. The Commission ensured the timely submission of all necessary reports to the EC and the International Atomic Energy Agency (IAEA), fulfilling all reporting obligations.

The Commission also proactively addressed priority issues identified in the 2022 Annual Report and played a crucial role in technical cooperation projects with the IAEA. These projects enhanced Malta's regulatory framework through the acquisition of essential environmental monitoring equipment, along with technical advice and training. To further minimise radiation exposure, the Commission developed new policies, particularly in the medical sector, and provided updated guidance for Radiation Protection Experts and Medical Physics Experts.

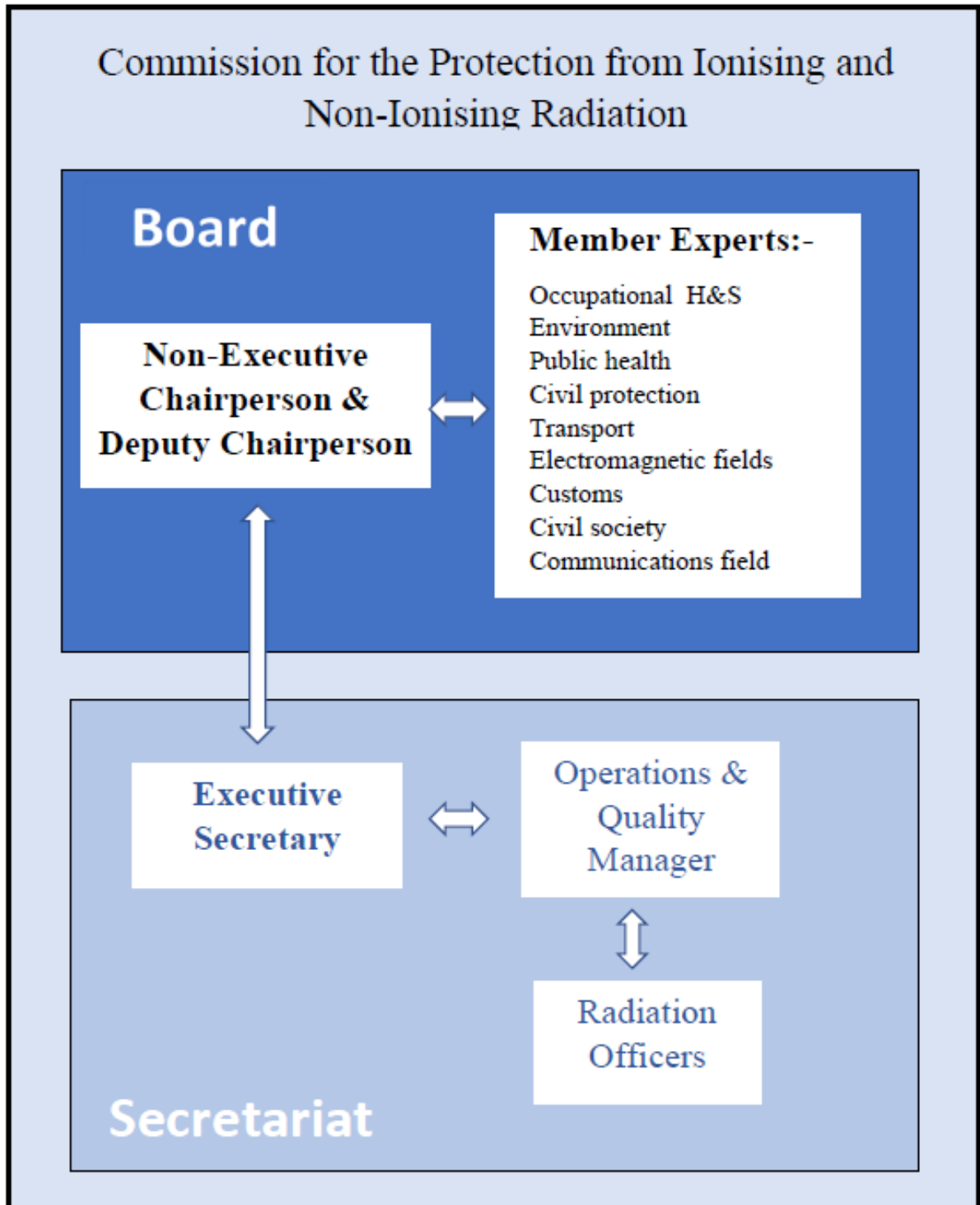
Education and training on radiation protection legislation remained a key focus. The Commission's Secretariat actively participated in training events and the 2023 Public Service Week activities. The Commission continues to recognise that the Secretariat has insufficient human resources to fully comply with its legal obligations under the Nuclear Safety and radiation Protection Act (Act) and to rectify this, the Commission did all in its powers to increase the staffing of the Secretariat.

The Commission remains committed to its mission of: *To allow and regulate the beneficial and justified uses of ionising and non-ionising radiation for the well-being of the population and the environment* by regulating the beneficial and justified uses of ionising and non-ionising radiation, ensuring the protection of both the population and the environment. It continues to uphold its responsibilities to the highest standard, adhering to its legal obligations and strategic objectives.

2 The Operations of the Commission.

2.1 The Structure the Commission.

The Commission consists of a chairperson, deputy chairperson, nine independent expert members and a Secretariat to perform its executive functions, as outlined in Figure 1.



2.2 Functioning of the Commission.

In 2023, the Commission established four sub-groups, each comprising expert members from the Commission Board, Secretariat and invited external experts. The choice of these experts was primarily based on the specific policies each sub-group was tasked with addressing. These sub-groups met as often as required and together with members of the Secretariat they drafted policies addressing obligations, strategies, and documentation related to radon monitoring, training, environmental monitoring, and non-ionising radiation.

Over this year, the Commission held 10 meetings during with updates from these sub-groups were presented and discussed.

2.3 Internal Procedures of the Commission

The responsibilities of the Board and Secretariat where formalised in 2023 by the development of the Commission's *Management System Manual*. The document outlines the strategic, core and support processes needed for the Commission to perform its various functions.

2.4 Staffing within the Secretariat

The staff compliment of the Secretariat by the end of the year was composed of five persons. Two senior Occupational Health and Safety Authority employees were deployed to the Commission in February 2022, to the grades of Principal for Radiation Protection and Manager. The Principal for Radiation Protection was appointed by the Minister as the Executive Secretary whilst the Manager fulfils the role of Operations and Quality Manager. The Commission also has three Radiation Officers, the most recent was employed in November 2023.

2.5 Commission Budget

The Commission's budget for 2023 remained at the same amount as 2022, namely: €320,000.

Part XV of the Cap 585 does not apply as the Ministry is responsible for managing the Commission's budget.

2.6 Planning of international peer review of Commission

In line with Maltese obligations to the EU, the Commission sent a request to the IAEA for the regulatory framework for radiation safety to be peer reviewed by an Integrated Regulatory Review Service (IRRS). This was confirmed for the first quarter of 2026.

3 Inventory of users of radiation in Malta

In 2023, the number of employers (undertakings) that use ionising radiation was 234, (13 more than 2022) as shown in the Table 1 below.

Application	Number of sites
Radiotherapy	1
Nuclear Medicine	3
X-ray diagnostic	26 (+2)
Dental	120 (-5)
Veterinary	31 (+2)
Industrial NDT	8 (+2)
Industrial other quality control	19 (-2)
Security Screening	15 (+8)
Central storage facility	1
Suppliers (in 2023)	10 (+2)
Total	234

The most significant growth in site applications was observed for security screening, a trend that is expected to persist as technologies for such purposes become increasingly accessible.

4 International obligations

4.1 Environmental monitoring

The Commission remains committed to coordinate the environmental monitoring programme in Malta. This programme monitors radioactivity in the environment from the sampling of air particulates, seawater, and soil by the Environmental and Resources Authority (ERA), and the drinking water, milk, and food by the Environmental Health within the Department for Health Regulation (EHD), following a National Environmental Monitoring Plan. These results are transmitted on an annual basis to the European Union Joint Research Centre's Radioactivity Monitoring Database.

ERA's gamma dose monitoring stations have their data transmitted directly to the EU and are included in the European dose rate map <https://remap.jrc.ec.europa.eu/Simple.aspx>

The Commission has also initiated discussions to review this programme, taking into consideration the testing capabilities in Malta.

4.2 Reporting under EURATOM Nuclear Safeguards

The Secretariat sent all the necessary reports on the nuclear material accountancy to the European Commission as required under the trilateral EU/IAEA nuclear safeguards agreements.

4.3 Convention of Nuclear Safety. Report - 8th and 9th Review cycle

Malta is a contracting party to the Convention on Nuclear Safety and thus is required to attend review meetings and report on Malta's compliance with the obligations set out in the Convention.

The Maltese report was presented in March 2023 at the IAEA headquarters in Vienna.

The country group review team for Malta identified the following area of good performance:

“The diverting of limited resources by Malta to protect its citizens from potential harmful consequences as a result of the ongoing war on Ukraine, by expediting the set-up of a fully operational Maltese environmental monitoring laboratory is recognised as an Area of Good Performance, given that it is a non-nuclear state with limited resources”.

4.4 Incident and Trafficking Database

The Commission receives and distributes reports from the IAEA's Incident and Trafficking Database (ITDB) to the relevant Maltese stakeholders. This database is the IAEA's information system on incidents of illicit trafficking and other unauthorized activities and events involving nuclear and other radioactive material outside of regulatory control. In 2023, a total of 170 notifications were received and distributed.

4.5 Nuclear Notification and Assistance Conventions

In 2023 the Commission asked the ministry responsible for foreign affairs to investigate Malta joining the Convention on the Early Notification of a Nuclear Accident and Convention on Assistance in a Nuclear Accident or Radiological Emergency, Malta being the only EU state not being party to these conventions.

5 Activities of the Secretariat

5.1 Regulatory Inspections

During 2023 the Secretariat performed 104 inspections of undertakings that use ionising radiation. These included inspection of all dental clinics, an inspection campaign that started in 2022.

A graded approach is being applied to inspections, with the higher risk applications being inspected more frequently.

The number of inspections in the relevant applications is shown in table 2.

Application	Inspections in 2023
Radiotherapy	10
Nuclear medicine	2
Diagnostic radiology	13
Veterinary	2
Dental	71

Cyclotron	1
Security Screening	2
Container Shipment	1
Public Enquiry	1
School	1
Total	104

5.2 Recognition of experts

As required by the regulations, in 2023, the Commission recognised 4 Radiation Protection Experts and 6 Medical Physics Experts.

The list of recognised experts can be viewed at: <https://rpc.gov.mt/approved-service-providers/>.

5.3 Radioanalysis Laboratory

The laboratory's primary purpose is to conduct analysis for the National Radioactivity Monitoring Programme and to provide support during radiological emergencies impacting Malta. In 2023, the laboratory completed its first full year of gamma spectrometry analyses on food, water, feed, and environmental samples. The number of analyses conducted is detailed in Table 3.

Media	Number of gamma spectrometry analysis performed in 2023
Air Filter	28
Soil	12
Tap water	5
Milk	2
Foodstuffs	7
Seawater	16
Feed	1
Total	77

During this initial phase of operation, an intercomparison exercise was initiated to compare air filter, soil, sea water results between the Commission laboratory and an overseas laboratory in Greece.

When establishing the laboratory, the Commission explored the possibility of refurbishing previously relocated, outdated beta and alpha spectrometry equipment for use in the facility. However, this approach was found to be financially impractical. Moving forward, the Commission aims to pursue opportunities for technical projects to support and reasonably expand its testing capabilities.

5.4 Emergency Exercises

Working with the Civil Protection Department the Commission participated in several EU and IAEA desk-top emergency exercises. This was an opportunity for the Commission to revise its level of preparedness in case of an emergency.

6 Commission Sub-groups

6.1 Environmental Steering Committee

The Environment Steering Committee is working with and had discussions with the Environment and Resources Authority, Environmental Health Directorate and the Animal Health and Welfare Department on developing the *Maltese National Radioactivity Monitoring Programme*.

The aim of the monitoring programme is to ensure Malta is in line with the EU recommendations and to plan the most appropriate way to perform radionuclide analysis for both routine and emergency situations.

6.2 Non-ionising Radiation Sub-Committee

The Non-Ionising Radiation Sub-Committee is working on clarifying legal issues relating to non-ionising radiation, currently both the Occupational Health and Safety Authority (OHSA) and the Commission have responsibilities for safety, with the Commission having the general oversight whilst the subsidiary legislations are within OHSA.

6.3 Radon Working Party

The Radon Working Party worked on developing the Maltese actions regarding the protection from radon through the development of the Maltese Radon Action Plan. During 2023 a report was commissioned through the University of Malta to assess the relative risks of different radon in air concentrations. Also, in 2023 a new study using radon monitoring equipment commenced, the purpose of the study is to investigate how building materials, ventilation, and room elevation effect radon concentrations in dwellings.

6.4 Training Steering Committee

The Training Steering Committee is working on developing Commission training requirements for persons working with ionising radiation. The Basic Safety Standards regulations require that the Commission is to develop syllabi and approve organisations to provide training. The sub-group is working on the preparation of a training framework that addresses the necessary training required across the various professions involved with ionising radiation. To achieve this goal, the sub-group is currently:

- discussing the suitable platforms to carry out this training in a timely and efficient manner;
- outlining the necessary criteria for persons to meet the Basic Safety Standards regulations requirements on training;
- identifying the working sectors to then communicate with stakeholders to further improve the framework and plan its course of implementation.

7 Management of Radioactive Waste

The Commission sought advice through an International Atomic Energy Agency contracted expert, to advise on options for the management of disused sources. The expert finalised his detailed report in November 2023.

The report discussed various disposal and export options, the leading options being construction of a narrow diameter borehole with waste emplacement at a depth of between 50 and 200m, conversion an existing underground man-made structure, and export. In drawing up the report discussions were held with Continental Shelf Department and the Energy and Water Agency.

Once the report was received, the Commission started drafting a report for the government.

Any future disposal options in Malta would require further in-depth safety studies.

8 Outreach

As part of its outreach programme the Commission held a general course on radiation legislation in June 2023

The Commission manned a stall at the Public Service Week event between the 10th to 12th May 2023

In February 2023 the Commission posted on its website information for the public on radon <https://rpc.gov.mt/wp-content/uploads/2023/02/Radon-Public-information-to-website.pdf>.

In December 2023 the Commission published guidance for persons applying for Commission recognition to become Radiation Protection Experts and Medical Physics Experts <https://rpc.gov.mt/wp-content/uploads/2023/02/Radon-Public-information-to-website.pdf>.

A senior member of the Secretariat was selected by the IAEA to be an IRRS reviewer for the missions in the Netherlands and Saudi Arabia in 2023.

9 IAEA support to the Commission

Malta receives assistance from the IAEA through various technical cooperation projects (TCPs). Proposals for TCPs are written by member states of the IAEA and then submitted for evaluation and review to the IAEA. When awarded, national TCPs are run on a two-year project cycle and may be nearly fully funded by the IAEA or co-funded with the member state.

9.1 National Project on Enhancing Radioactive Waste Management

Through this project (MAT9009) an ARTEMIS mission to Malta was performed in 2022 and expert advice provided in 2023 for Malta to assess disposal options for radioactive waste as part of the Maltese radioactive waste management programme. Malta contributed 50% of the total project cost of €46,400 towards this project.

9.2 Design of national TC project for 2024-2025 for the Commission.

In 2023 the IAEA approved Commission proposal for a national project MAT9011 designed to train the newly employed staff and expand the radio-analysis laboratory monitoring capabilities. The IAEA will be funding the project budgeted at €194,000.

10 Future priorities for the Commission

The key priority is to ensure that the Secretariat is adequately staffed with trained personnel.

The following issues need to be addressed.

- i. Providing the government advice on the future management of radioactive waste
- ii. Regulation of non-ionising radiation as deemed relevant.
- iii. Review the findings of the IRRS and ARTEMIS missions, in preparation for the next missions.
- iv. Develop training framework for undertakings.
- v. Extend the testing capabilities of the radioanalytical laboratory.
- vi. Review of Environmental monitoring procedure.
- vii. Further development of radon policies.
- viii. Consider the need to join the Convention on the Early Notification of a Nuclear Accident and Convention on Assistance in a Nuclear Accident or Radiological Emergency
- ix. Further development of the management system documentation of the Commission
- x. Prepare for the IRRS mission provisionally scheduled for end of 2026.



Prof Lourdes Farrugia
Chairperson
December 2024



Mr Paul Brejza
Executive Secretary
December 2024