EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

Directorate D - Nuclear energy, safety and ITER
D.3 – Radiation protection and nuclear safety

Verification under the terms of Article 35 of the Euratom Treaty

Main Conclusions

CYPRUS

Nicosia

Routine and emergency radioactivity monitoring arrangements
Monitoring of radioactivity in drinking water and foodstuffs

Dates	8 – 10 March 2023
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INTRODUCTION

Article 35 of the Euratom Treaty requires that each Member State shall establish facilities necessary to carry out continuous monitoring of the levels of radioactivity in air, water and soil and to ensure compliance with the basic safety standards[1].

Article 35 also gives the European Commission (EC) the right of access to such facilities in order that it may verify their operation and efficiency.

The Radiation Protection and Nuclear Safety Unit (ENER D.3) of the EC's Directorate-General for Energy (DG ENER) is responsible for undertaking these verifications.

The main purpose of verifications performed under Article 35 of the Euratom Treaty is to provide an independent assessment of the adequacy of monitoring facilities for:

- Liquid and airborne discharges of radioactivity into the environment from a site;
- Levels of environmental radioactivity at the site's perimeter and in the marine, terrestrial and aquatic environment around the site, for all relevant pathways;
- Levels of environmental radioactivity on the territory of the Member State.

A verification team from DG ENER visited Cyprus on 8 – 10 March 2023 to review:

- Facilities for routine monitoring of environmental radioactivity in Nicosia;
- Facilities for emergency monitoring of environmental radioactivity in Nicosia;
- Measuring laboratories, in particular infrastructure, analytical methods, quality assurance and control aspects;
- Reporting of the environmental monitoring programme results.

This document gives an overview of the verification team's main conclusions on the environmental surveillance systems in place and recommendations for their improvement. More detailed information concerning the verification is available in the technical report (TR) of the verification.

[1] 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 (OJ L 13 of 17.1.2014)

MAIN CONCLUSIONS

The verification team successfully completed every verification planned for the visit. The information supplied by the Cypriot authorities in advance of the visit, as well as the additional documentation received during and after the verification, was useful.

(1) The verification activities that were performed demonstrated that the facilities necessary for the monitoring of levels of radioactivity in air, water and soil in Nicosia are adequate. The Commission could verify the operation and efficiency of a representative part of these facilities.

(2) The verification activities that were performed demonstrated that the facilities necessary for the monitoring of levels of radioactivity in air, water and soil in Nicosia in the event of a radiological emergency are adequate. The Commission could verify the availability of a representative part of these facilities.

(3) The verification team wishes to make the following recommendations:

- The verification team noted that the Department of Labour Inspection (DLI) does not have an actual radiological laboratory (TR 7.2.3), but it has a few laboratory devices, which can be used for qualitative analysis of radiological samples. These devices are available and in good condition, but there is no formalised system (written procedures) nor necessary calibrations for carrying out quantitative measurements; the DLI does not have dedicated personnel for this type of work either.

  The verification team recommends that the Department of Labour Inspection considers whether it needs an in-house radiological laboratory. If so, dedicated personnel should be made available and operation of the devices duly formalised and documented.

- The verification team noted that the Department of Labour Inspection has a large collection of portable/mobile radiation monitoring equipment (TR 7.2.4). The equipment is available and in good condition (mostly in original factory packages), but the DLI does not have enough personnel to effectively operate the monitoring devices. The DLI would benefit from a more systematic approach to equipment management, for example by establishing written measurement instructions and a maintenance system for the equipment.

  The verification team recommends that the Department of Labour Inspection builds a formalised system and drafts written instructions for the maintenance and operation of the mobile monitoring devices in the event of a radiological emergency.

  The verification team recommends that the Department of Labour Inspection trains more staff (internal and external) for the operation of the mobile monitoring devices.

- The verification team noted that at the State General Laboratory (SGL) the existing analysis capabilities are sufficient for a routine programme (TR 7.3.1). However, the laboratory measurement capacity would not be sufficient in an emergency situation, when the number of samples to be measured would significantly increase. Also, the number of trained staff is insufficient for this type of situation. The verification team was informed, that the SGL does not have sufficient space for storing and managing increased number of incoming (radioactive) samples in the event of an emergency. By reducing the counting times the laboratory capacity could be increased to facilitate higher sample throughput, but there is no formalised plan for this type of situation.

  The verification team recommends, that the State General Laboratory drafts an internal preparedness plan for laboratory operation in an emergency situation, taking into account the increased number of incoming environmental and food samples with radioactive contamination. The plan should outline the methods for storing samples and avoiding contamination of the laboratory facilities.

- The verification team noted that at the State General Laboratory the alpha spectroscopy system was not operational (TR 7.3.1).

  The verification team recommends restoring the alpha spectroscopy capability at the State General Laboratory as soon as possible.

(4) These remarks aside, the verification team nevertheless concludes that the verified parts of the monitoring facilities and the monitoring system for environmental radioactivity in Nicosia conform to the provisions laid down under the Article 35 of the Euratom Treaty.

(5) The detailed verification findings are compiled in the 'Technical Report' that is addressed to the Cyprus competent authority through the Permanent Representation of Cyprus to the European Union.

(6) The Commission services kindly request that the Cypriot authorities submit, before the end of 2024, a progress report on their implementation of the recommendations, as well as on any significant changes in the set-up of the monitoring systems, in particular installation of the new monitoring systems (TR 7.2.5). The Commission will take this report into account when considering whether a follow-up verification would be necessary.

(7) Finally, the verification team acknowledges the excellent co-operation it received from all persons involved in the activities it performed.

V. Tanner

Team Leader