



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

BULGARIA

Sofia

Routine and emergency radioactivity monitoring arrangements

Monitoring of radioactivity in drinking water and foodstuffs

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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 standards¹.

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 by a site;
- Levels of environmental radioactivity at the site 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.

For the purpose of such a review, a verification team from DG ENER visited Sofia on 13 – 15 November 2018. This mission dealt with

- Facilities for routine monitoring of environmental radioactivity in Sofia;
- Facilities for emergency monitoring of environmental radioactivity in Sofia;
- Measuring laboratories, in particular infrastructure, analytical methods, quality assurance and control aspects, as well as reporting.

The present document gives an overview of the main conclusions by the verification team concerning relevant aspects of the environmental surveillance and corresponding recommendations. More detailed information concerning the verification is available in the technical report (TR) of the verification.

MAIN CONCLUSIONS

All verifications that had been planned by the verification team were completed successfully. The information supplied by Bulgarian 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 to carry out monitoring of levels of radioactivity in air, water and soil in Sofia 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 to carry out monitoring of levels of radioactivity in air, water and soil in Sofia in the event of a radiological emergency are adequate. The Commission could verify the availability of a representative part of these facilities.

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)

- (3) The verification team recommends the following:
- a) With regard to the Public Exposure Monitoring Laboratory of the National Centre for Radiobiology and Radiation Protection (section 6.3.1 of the TR):
 - Improve the laboratory equipment, in particular by acquiring a liquid scintillation counter, an alpha spectrometer and an additional gamma spectroscopy system.
 - Fill the vacant laboratory staff positions as soon as possible.
 - Introduce a computer-based sample and results handling system (LIMS) to replace the paper logbooks.
 - Introduce a sample matrix correction algorithm for the gamma spectroscopy efficiency calibration procedure.
 - Include monitoring of gaseous radioactive iodine in the laboratory's monitoring capabilities.
 - b) It would be beneficial to introduce a computer-based sample and results handling system (LIMS) in the Radiation Expertise and Radon Monitoring Laboratory of the National Centre for Radiobiology and Radiation Protection (section 6.3.2 of the TR).
 - c) The laboratory counting equipment in the radiological laboratory of the National Institute of Meteorology and Hydrology (section 6.5.2 of the TR) should be renewed in the near future.
 - d) The Institute for Nuclear Research and Nuclear Energy (section 6.6.1 of the TR), should increase the number of staff trained to carry out mobile radioactivity monitoring.

Notwithstanding these remarks the verified parts of the environment monitoring facilities and the monitoring system for environmental radioactivity in Sofia conform to the provisions laid down under the Article 35 of the Euratom Treaty.

- (4) The detailed verification findings and ensuing suggestions are noted in the 'Technical Report' that is addressed to the Bulgarian competent authorities through the Permanent Representation of Bulgaria to the European Union.
- (5) The Commission services kindly request that the Bulgarian authorities submit, before the end of 2020, a report on their implementation of the recommendations, and about any significant changes in the set-up of the monitoring systems. Based on this report the Commission will consider the need for a follow-up verification.
- (6) Finally, the verification team acknowledges the excellent support received from everybody involved in the activities it performed.

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