



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY
DIRECTORATE D - Nuclear Safety and Fuel Cycle
Radiation Protection

Main Conclusions of the Commission's Article 35 verification

URANIUM SITES

Environmental Radioactivity and Discharge Monitoring

BULGARIA

Date: 11 to 15 July 2011

Verification team: Mr C. Gitzinger (team leader)

Mr E. Henrich

Mr E. Hrnecek

Reference: **BG-11/04**

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.

For the EC, the Directorate-General for Energy (DG ENER) and in particular its Radiation Protection Unit (at the time of the visit ENER.D.4, now ENER.D.3) 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 (and control thereof).
- 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.

Taking into account previous bilateral protocols, a Commission Communication has been published in the Official Journal on 4 July 2006 with a view to define some practical arrangements for the conduct of Article 35 verification visits in Member States.

A verification team from DG ENER.D.4 (now DG ENER.D.3) visited from 11 to 15 July 2011 different (uranium) mining sites in central and in south-eastern Bulgaria. The aim of the verification was to check the operation and efficiency of the facilities and associated analytical laboratories for continuous monitoring of the level of radioactivity in air, water and soil in the vicinity of these sites on the territory of Bulgaria. The verification scope also covered on-site facilities monitoring liquid and aerial discharges of radioactivity into the environment. To some extent, the national system for the monitoring of environmental radioactivity in the area visited was covered as well.

During the verification activities addressing the monitoring of radioactive discharges from different mining and milling sites and the corresponding environmental radioactivity monitoring, the EC team was accompanied by representatives of the Ministry of Economy and Energy.

The visit included meetings with representatives of various national authorities having competence in the field of radiation protection. An opening meeting and a closing meeting were held, with all parties involved during the visit, in the premises of the Ministry of Economy, Energy and Tourism at Sofia.

The present document gives an overview of the main conclusions by the verification team and corresponding recommendations. More detailed information concerning the verification is available at the technical report of the verification.

MAIN CONCLUSIONS

All verifications that had been planned by the verification team were completed successfully. In this regard, the information supplied 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 continuous monitoring of levels of radioactivity in the air, water and soil around the remediated former uranium mining and processing sites at Momino, Sliven, Orlov Dol, Vladimirovo, Smolyan and Dospat Barutin as well as the verified parts of the national monitoring system for environmental

¹ Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (OJ L-159 of 29/06/1996)

radioactivity are adequate. The Commission could verify the operation and efficiency of these facilities.

- (2) A few topical suggestions and recommendations are formulated in the technical report. These aim at improving some aspects of the remediation and the environmental surveillance of former uranium sites and do not discredit the fact that environmental monitoring around former uranium sites is in conformity with the provisions laid down under Article 35 of the Euratom Treaty if the measures are maintained in the long term and the recommendations implemented.
- (3) With regard to the situation at Vromos Bay (area of a former copper mine at Rossen with releases of natural radionuclides to that bay leading to elevated radiation levels) the verification team recommends that the radiation dose received by the residents of houses near the contaminated area be checked – especially with regard to Rn-222 – and construction of houses on contaminated areas be prevented effectively if radiation levels are above limit.

As long as radiation levels at the beach are above limit, the team strongly recommends closing the beach as recommended by the Ministry of Health and making sure that public access is prevented effectively by local authorities.

- (4) The verification team recommends studying the issue of leachates accumulating inside the mines (production level), in particular with regard to any contamination of ground water in the very long run, with a view to prevent any future problems with drinking water. Especially in the case of extensive use of such waters for irrigation in agricultural production intensified monitoring is recommended. Also, the issue of the use of outburst springs in uranium mining areas for watering cows should be studied and an appropriate monitoring (e.g. of milk) be set up.

Furthermore, the team recommends for all remediated sites maintaining an appropriate radiological monitoring (e.g. with regard to radon emanation at the site and potential groundwater contamination). Such monitoring would have to be in place for long term surveillance; adequate administrative and financial support would be necessary.

- (5) The detailed verification findings and ensuing recommendations are compiled in the ‘Technical Report’ that is addressed to the Bulgarian competent authorities through the Bulgarian Permanent Representative to the European Union.
- (6) The Commission services will closely follow up the progress made by the Bulgarian authorities. The Commission services ask the Bulgarian competent authority to inform them of any progress or significant changes with regard to the situation at the time of the verification.
- (7) Finally, the verification team acknowledges the excellent co-operation it received from all persons involved in the activities it performed.

C. Gitzinger

Team Leader