EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY
DIRECTORATE D - Nuclear Energy, Safety and ITER

Radiation protection and nuclear safety

Main Conclusions of the Commission's Article 35 verification

Routine and Emergency Radioactivity Monitoring Arrangements in Denmark

Dates	21-23 April 2015
Verification team	Mr A. Ryan DG ENER (team leader) Mrs M. Marin Ferrer DG JRC
Reference	**DK 15-02**

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 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.

For the purpose of such a review, a verification team from DG ENER visited Denmark from 21 to 23 April 2015. This mission dealt with

- Environmental radiological monitoring programme and activities as implemented in the visited regions of Denmark, including sampling and monitoring systems, analytical methods, quality assurance and control aspects, reporting, etc.;
- Measuring laboratories, in particular infrastructure, analytical methods, quality assurance and control aspects, as well as reporting;
- Emergency preparedness arrangements and systems,
- Installation of ambient gamma dose rate probes as part of the national surveillance network.

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.

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) which will be superseded by 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, p. 1).

MAIN CONCLUSIONS

All verifications that had been planned by the verification team were completed successfully. The information supplied by the Danish 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 continuous monitoring of levels of radioactivity in the air, water and soil in Denmark are adequate. The Commission services could verify the operation and efficiency of a representative part of these facilities.

(2) The verification team was impressed by the design of the gamma dose rate monitoring network, consisting of 2 independent detectors (indeed based on different technologies) using distinct communication systems.

DEMA's extensive emergency preparedness arrangements are acknowledged.

Overall the monitoring network is of a high standard. The verification team express the hope that this level of quality can be maintained in the future, through equipment maintenance, and above all through preserving a sufficient level of trained staff, as exists at present.

(3) A few technical recommendations and suggestions are formulated, in particular the following:

a. Concerning air samplers operated by DEMA (Section 8.3 of the TR) the verification team would encourage occasional analysis of the activated carbon cartridges from these stations to ensure that laboratory staff is adequately trained in this method.

b. Concerning the TLD network operated by DTU Nutech (Section 8.4 of the TR) the verification team would support withdrawing the TLD measurements and the allocation of the resources to other areas of the monitoring programme.

(4) These recommendations aim at maintaining a constant monitoring quality level by improving equipment and people back-up arrangements. They do not discredit the fact that the verified parts of the national monitoring system for environmental radioactivity are in conformity with the provisions laid down under Article 35 of the Euratom Treaty.

(5) The detailed verification findings and ensuing recommendations are compiled in the 'Technical Report' that is addressed to the Danish competent authorities through the Danish Permanent Representative to the European Union.

(6) The Commission Services ask the Danish competent authority to inform them of any achievements 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.

A. RYAN
Team leader