EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

Directorate D - Nuclear Energy, Safety and ITER
D.3 – Radiation Protection and Nuclear Safety

Main Conclusions of the Commission's Article 35 verification

UNITED KINGDOM

Torness Nuclear Power Plant, Scotland

Monitoring of radioactive discharges to the environment
Environmental radioactivity monitoring programme
Environmental radioactivity monitoring network in the vicinity

Dates	24-27 October 2016
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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 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 the United Kingdom on 24 – 27 October 2016. This mission dealt with

- Monitoring of radioactivity in liquid and gaseous discharges at the Torness nuclear power plant;
- Environmental radiological monitoring programme and activities as implemented in the vicinity of the Torness nuclear power plant (TNPP), 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.

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 the UK 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 on and around the Torness NPP site 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 continuous monitoring of levels of radioactivity in the gaseous and liquid discharges at the Torness NPP site are adequate. The Commission could verify the operation and efficiency of these facilities.

[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).

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

a. Concerning the monitoring of gaseous discharges (section 9.2.2 or the TR) the verification team recommends modernisation of the GAM-systems, in particular the computer controlling the systems. In this context, consideration should be given whether there is a need to install additional back-up systems for the GAM monitors. In addition, as a matter of good laboratory practice, the verification team recommends regular control and long-term trend monitoring of the HPGe-detector resolution (width of the ^{60}Co peak at 1332 keV).

b. Concerning the TNPP base room laboratory for radioactive effluent samples (section 9.3.1 of the TR), as a matter of good laboratory practice, the verification team recommends regular control and long-term trend monitoring of the HPGe-detector resolution (width of the ^{60}Co peak at 1332 keV).

c. Concerning the TNPP radiochemistry laboratory for radioactive effluent samples (section 9.3.2 of the TR), the verification team recommends more intensive participation in proficiency tests and intercomparison exercises.

d. Concerning the TNPP laboratory for environmental samples (section 9.3.3 of the TR), the verification team suggests implementing a more secure and permanent system of recording sample progress. Furthermore trending of instrument calibration should be implemented, together with logging of instrument maintenance problems. In this respect integrating the laboratory in to the already existing LIMS system would be an asset to facilitate all record keeping.

Notwithstanding these remarks the verified parts of the Torness NPP discharge monitoring system, on-site environment monitoring facilities and the national monitoring system for environmental radioactivity in the plant vicinity are in conformity with the provisions laid down under the Article 35 of the Euratom Treaty.

(4) The detailed verification findings and ensuing recommendations are compiled in the 'Technical Report' that is addressed to the UK competent authorities through the United Kingdom Permanent Representation to the European Union.

(5) The Commission services request a report on the implementation of the recommendations from the United Kingdom authorities and about any significant changes in the set-up of the monitoring systems before the end of 2018. Based on this report the Commission will consider the need for a follow-up verification.

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

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