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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

FINLAND

Loviisa NPP Discharge and Environmental Monitoring

and

National environmental radioactivity monitoring network in the vicinity

Dates	29 September - 2 October 2015
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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 (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 Finland from 29 September to 2 October 2015. This mission dealt with

- Environmental radiological monitoring programme and activities as implemented in the visited regions of Finland, 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;
- 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 Finnish 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 Finland are adequate. Furthermore the facilities necessary to carry out continuous monitoring of radioactive discharges to air and water at the Loviisa NPP site are adequate. The Commission services could verify the operation and efficiency of a representative part of these facilities.

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

a. **STUK's laboratories (Section 9.2 of the TR)**

The verification team recognises that STUK's performance in monitoring environmental radioactivity requires a very high level of staff competence. This high level of competence is achieved through an appropriate programme of education, training and retraining. The verification team stresses the importance of maintaining the current level of staff and to continue the policy of adequate education, training and retraining.

b. **Discharge monitoring at the Loviisa NPP (Section 9.6 of the TR)**

A key aspect of monitoring routine discharges to the environment is that the samples taken for analysis are representative of the actual discharge. The verification team notes with satisfaction that the Loviisa NPP has entered into a re-examination of the representativeness of samples taken for monitoring liquid effluent discharges as well as of samples taken for monitoring gaseous effluent discharges. The verification team asks that the Commission Services be informed, within three months, about the outcome of these investigations and the actions taken to ensure the representativeness.

c. **Loviisa NPP laboratory for analysis of discharge samples (Section 9.7 of the TR)**

It is key that Loviisa NPP continues to ensure that routine analysis can be adequately guaranteed.The verification team notes that the laboratory of the Loviisa NPP has only limited possibility to exchange experience and compare performance with other similar laboratories. The verification team therefore recommends a review of the quality assurance programme, including exploring possibilities for experience exchanges with other laboratories, also with reference laboratories, and increased access to national and international intercomparison exercises, particularly for low activity samples.

d. **On-site and off-site environmental monitoring at Loviisa NPP (Section 9.8 of the TR)**

The verification team takes note of the fact that STUK conducts the programme of environmental radioactivity monitoring around the Loviisa nuclear power plant. The verification team supports the review of the environmental monitoring programme around the Loviisa NPP which STUK, in close contact with Fortum Power & Heat Oy, the operator of the Loviisa Nuclear Power Plant, has started.

Notwithstanding these recommendations the verified parts of the national monitoring system for environmental radioactivity and the monitoring arrangements in place at the Loviisa NPP are in conformity with the provisions laid down under Article 35 of the Euratom Treaty.

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

(4) The Commission Services ask the Finnish competent authority to inform them, within three months, of any developments and actions taken as a result of this report.

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

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Team leader

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