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Radiation protection

Main Findings of the Commission's Article 35 verification in Lithuania National Environmental Radioactivity Monitoring

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INTRODUCTION

Article 35 of the Euratom Treaty requires that each Member State shall establish the 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.

Article 35 also gives the European Commission the right of access to such facilities in order that it may verify their operation and efficiency.

The main purpose of verifications performed under the 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 exposure pathways.
- Levels of environmental radioactivity on the territory of the Member State.

For the purpose of such a review a verification team from the European Commission visited Lithuania on 19 to 23 September 2011. 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 territory of Lithuania. With due consideration of the scope of the verification mission and taking into account the relatively short time available for the execution of the programme, emphasis was put on:

- Selected environmental radioactivity monitoring arrangements in Utena, Ignalina, Vilnius and Kaunas
- National environmental monitoring and sampling programme
- Discharge monitoring at the Institute of Oncology of the Vilnius University
- Analytical laboratory of the Environmental Protection Agency
- Analytical laboratory of the Radiation Protection Centre
- Analytical laboratory of the National Food and Veterinary Risk Assessment Institute

The team carried out verifications of monitoring systems and sampling facilities at several locations in Lithuania. These verifications covered both on-line and off-line environmental and foodstuffs radioactivity monitoring provisions.

The present report gives an overview of the main findings of the verification team and corresponding recommendations. More detailed information concerning the verification is available in the technical report of the verification.

Recommendations are addressed to the Lithuanian competent authorities.

MAIN FINDINGS

The proposed verification programme could be completed within the time allocated. In this regard the verification team appreciates the advance information supplied, as well as the additional documentation received during and after the verification.

1. Main findings with respect to the environmental radioactivity monitoring arrangements in Utena, Ignalina, Vilnius and Kaunas

The verification activities performed in Utena, Ignalina, Vilnius and Kaunas:

- 1.1 Confirmed the existence and functionality of the radiation monitoring systems at these locations.
- 1.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

However,

- 1.3 With respect to the point 1.1 above, the verification team points out that the national automatic radiation dose rate monitoring network (comprising of PMS, ALNOR and AGIR systems) is in poor condition. There are serious concerns regarding reliability, communication arrangements, physical access and electrical power back-up.

The verification team recommends refurbishment of the automatic radiation dose rate monitoring network.

- 1.4. With respect to point 1.1 above, the verification team points out that the technical status of the monitoring network data centre is poor, even though the system is able to provide dose rate data for the national monitoring programme and the EURDEP system. There are serious concerns regarding reliability, alerting, data handling, communication arrangements and electrical power back-up.

The verification team recommends full modernisation of the automatic radiation dose rate monitoring network data centre, including its communication systems, alerting system and back-up power supply.

- 1.5 With respect to point 1.2 above, the verification team points out that some of the PMS stations seem to lack regular maintenance.

The verification team recommends that the maintenance procedures of the monitoring stations be reviewed and arrangements made for continuous maintenance of the stations.

2. Main findings with respect to the Lithuanian national environmental radiation monitoring and sampling programme

The verification activities performed at the Environmental Protection Agency:

- 2.1 Confirmed the existence and functionality of the national environmental monitoring and sampling programme, covering the Lithuanian territory.
- 2.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

However,

- 2.3 With respect to point 2.1 above, the verification team points out that there are high-volume air sampling systems only in Utena. Additional measurement capability of air radioactivity concentration would be appropriate in densely populated areas of Lithuania, e.g. the Vilnius area.

The verification team recommends increasing the number of high-volume air sampling systems to adequately cover densely populated areas of Lithuania.

- 2.4 With respect to the point 2.1 above, the verification team points out that there is no annual official public report prepared on radiation in the Lithuanian environment.

The verification team suggests that the EPA should improve the availability of official information on environmental radiation in the public domain.

3. Main findings with respect to the analytical laboratory of the Environmental Protection Agency

The verification activities performed in the analytical laboratory of the Environmental Protection Agency:

- 3.1 Established that the laboratory is adequately equipped and staffed with well trained personnel.
- 3.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

However,

- 3.3 With respect to point 3.1 above, the verification team points out that the laboratory has only one gamma spectroscopy system and one beta counting system, which may be insufficient to ensure continuous operation, e.g. in the case of radiological emergency.

In order to ensure continuous operation of the laboratory, the team suggests adding a second gamma spectroscopy system and a second beta counting system to the laboratory equipment.

- 3.4 With respect to point 3.2 above, the verification team points out that the laboratory is not (yet) accredited and its electronic database is still incomplete.

The verification team supports the intention to accredit the laboratory and the ongoing project for implementing an electronic laboratory database.

4. Main findings with respect to the analytical laboratory of the Radiation Protection Centre

The verification activities performed in the analytical laboratory of the Radiation Protection Centre:

- 4.1 Established that the laboratory is very well equipped and staffed with well trained personnel.
- 4.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

5. Main findings with respect to the analytical laboratory of the National Food and Veterinary Risk Assessment Institute

The verification activities performed at the analytical laboratory of the National Food and Veterinary Risk Assessment Institute:

- 5.1 Established that the laboratory is well equipped and staffed with well trained personnel.
- 5.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

6. Main findings with respect to discharge monitoring of the Institute of Oncology of the Vilnius University

The verification activities performed at the the Institute of Oncology of the Vilnius University:

- 6.1 Confirmed that there are no gaseous radioactive discharges from the Institute.
- 6.2 Confirmed that due to short half-lives and fairly low amounts of discharged liquid radioactivity neither site environmental nor continuous liquid discharge monitoring is carried out by the Institute.

CONCLUSIONS

The verification visit was successful and the objectives of the review were met. Within the remit of the verification activities under the Article 35 of the Euratom Treaty it has been demonstrated that the facilities necessary to carry out continuous monitoring of the levels of radioactivity in the air, water and soil on the territory of Lithuania are adequate. The Commission could verify the operation and efficiency of these facilities.

A few recommendations and suggestions have been formulated. These recommendations do not detract from the general conclusion that the Lithuanian national monitoring network is in conformity with the provisions laid down under Article 35 of the Euratom Treaty.

Finally, the verification team acknowledges the excellent co-operation it received from all persons involved.

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Team Leader