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## Main Findings of the Commission's Article 35 Verification

### ESTONIAN NATIONAL MONITORING NETWORK FOR ENVIRONMENTAL RADIOACTIVITY

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<b>Date:</b>	19 to 23 September 2005
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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.

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 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 specific site;
- 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, from 19 to 23 September 2005:

- Estonian Radiation Protection Centre (ERPC),
  - Sillamäe site and the Ökosil laboratory,
  - Paldiski site,
  - Estonian Veterinary and Food Board,
  - Meteorological stations at Harku, Narva-Jõesuu and Kunda.
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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:

- Structure of the national environmental monitoring and sampling programme (1),
- ERPC analytical laboratory (2),
- On-line automatic monitoring systems (3),
- Environmental monitoring programme at the Paldiski site (4) and
- Environmental monitoring programme at the Sillamäe site (5).

The present report gives an overview of the main findings of the verification team and corresponding recommendations.

Recommendations are addressed to the Ministry of the Environment, the Ministry of Agriculture, the Estonian Radiation Protection Centre and the Estonian Veterinary and Food Board.

## **MAIN FINDINGS**

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

### **1. Main findings with respect to the structure of the Estonian national environmental radiological monitoring and sampling programme and related regulatory control**

The verification activities performed at the facilities for monitoring and sampling of radioactivity in the environment:

- 1.1 Confirmed the existence and functionality of sampling facilities as defined in the regulatory obligations.
- 1.2 Established that the monitoring and sampling provisions are in general adequate.
- 1.3 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

However,

- 1.4 As regards the structure of the programme, the verification team made the following observations:
  - The frequency of mixed-diet samples collected at the Tallinn hospital is low and the general representativeness of this sampling may not be optimal.
  - The periodicity of sampling of food and natural products is not very well defined.
  - There is no sampling of rain water and grass.

- Duly formalised sampling procedures are needed for all outsourced activities.

*The verification team suggests that Estonia would compare its national monitoring programme with that in other Member States, looking essentially at the nature and frequency of sampling. The verification team recommends a revision of the programme in order to correct the deficiencies identified above and in order to bring the programme in line with good practices adopted in other Member States.*

## **2. Main findings with respect to the ERPC analytical laboratory for regulatory control**

The verification activities performed at the ERPC analytical laboratory for liquid and airborne environmental samples and foodstuffs samples:

- 2.1 Established that the laboratory is well equipped and adequately staffed with trained personnel.
- 2.2 Established that quality assurance and control is implemented through accreditations, compilation of written procedures and working instructions and through participation in intercomparison exercises with other analytical laboratories.

However,

*The verification team recommends that the gamma-spectroscopy hardware and software in the ERPC analytic laboratory be developed towards a more harmonised system, which would allow greater flexibility and reliability of the measurement operations and have sufficient measurement capacity also for emergency situations. This would also improve comparability of results and make training and maintenance easier.*

## **3. Main findings with respect to the Estonian on-line automatic radiation monitoring network**

The verification activities performed at the facilities for automatic monitoring of radiation in the environment:

- 3.1 Confirmed the existence and functionality of network monitoring facilities as defined in the regulatory obligations.
- 3.2 Confirmed that the levels of radioactivity in the environment are monitored and sampled in accordance with regulatory obligations.
- 3.3 Established that the network monitoring and sampling facilities are in general adequate and that the programme of sampling is satisfactory.
- 3.4 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

However,

*The verification team recommends the ERPC to ensure permanent availability of competence in the handling and maintenance of the central database of the on-line monitoring system.*

#### **4. Main findings with respect to the monitoring programme at the Paldiski site**

The verification activities performed at the facilities for monitoring and sampling of radioactivity in the environment at the Paldiski site:

- 4.1 Confirmed the existence and functionality of sampling facilities as defined in the regulatory obligations.
- 4.2 Confirmed that environmental radioactivity is monitored and sampled in accordance with regulatory obligations.
- 4.3 Established that the monitoring and sampling facilities are in general adequate and that the programme of sampling is satisfactory.
- 4.4 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

*The verification did not give rise to particular recommendations.*

#### **5. Main findings with respect to the monitoring programme at the Sillamäe site**

The verification activities performed at the facilities for monitoring and sampling of radioactivity in the environment at the Sillamäe site:

- 5.1 Confirmed the existence and functionality of sampling facilities as defined in the regulatory obligations.
- 5.2 Confirmed that environmental radioactivity is monitored and sampled in accordance with regulatory obligations.
- 5.3 Established that the monitoring and sampling facilities are in general adequate and that the programme of sampling is satisfactory.
- 5.4 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

*The verification did not give rise to particular recommendations. The verification team points out that the Sillamäe site requires long-term radiological surveillance. In order to ensure a continuous and credible monitoring programme also in the future the responsibilities need to be defined very clearly and sufficient resources need to be allocated for the long-term monitoring programme.*

## CONCLUSIONS

- 6.1 The verification visit was successful and the objectives of the review were met. Within the remit of verification activities under Article 35 of the Euratom Treaty it has been demonstrated that the facilities necessary to carry out continuous monitoring of levels of radioactivity in air, water and soil on the territory of Estonia are adequate. The Commission could verify the operation and efficiency of these facilities.
- 6.2 However, some shortcomings were noted and lead to recommendations by the Commission to the Estonian competent authorities with the aim to achieve improvements. It should be noted that these recommendations do not discredit the fact that radiological environmental monitoring in Estonia is in conformity with the provisions laid down in Article 35 of the Euratom Treaty.
- 6.3 The Commission would appreciate being kept informed about the actions the Estonian competent authority may undertake in the framework of the recommendations made.
- 6.4 Finally, the verification team acknowledges the excellent co-operation it received from all persons involved.

V. TANNER

Team leader