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DIRECTORATE-GENERAL FOR ENERGY

Directorate D – Nuclear Safety and Fuel Cycle
Radiation protection

Main conclusions of the Commission's Article 35 verification in Sweden

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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 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 Sweden from 13 to 16 November 2012. 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 Sweden. With due consideration to 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:

- The Central Interim Storage Facility (CLAB)
- Environmental radioactivity monitoring in the vicinity of the Oskarshamn site
- National environmental radioactivity monitoring network
- The SSM laboratory for discharge and environmental samples

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

Recommendations are addressed to the Swedish competent authorities.

MAIN CONCLUSIONS

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 conclusions with respect to the Central Interim Storage Facility (CLAB)

The verification activities performed:

- 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 finds the aerial activity discharge value displayed at the CLAB control room confusing, since it gives the impression that the facility is continuously releasing activity into the environment.

The verification team recommends the rearrangement of the system display in order to remove background effects from the displayed value.

- 1.4 With respect to point 1.1 above, the verification team noted that the gamma spectroscopy analysis at the CLAB laboratory is carried out using a very extensive nuclide library containing also short-lived nuclides and nuclides not present in a nuclear facility.

The verification team recommends SSM and SKB to work together in order to develop a practical and well-defined nuclide library for the analysis of discharge samples.

- 1.5 With respect to point 1.2 above, the verification team observed that the HPGe detector regular control programme at the CLAB laboratory does not include control of detector resolution by checking the width (FWHM) of the Co-60 peak at 1332 keV.

The verification team recommends including control of detector resolution (FWHM) in the laboratory's regular QA procedures.

2. Main conclusions with respect to the environmental radioactivity monitoring in the vicinity of the Oskarshamn site

The verification activities performed:

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

3. Main conclusions with respect to the national environmental radioactivity monitoring network

The verification activities performed:

- 3.1 Established the adequacy of the national environmental radioactivity monitoring network.
- 3.2 Established that quality assurance and control is implemented through a compilation of written procedures and working instructions.

4. Main conclusions with respect to the SSM laboratory for discharge and environmental samples

The verification activities performed:

- 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.

However,

- 4.3 With respect to the point 4.1 above, the verification team observed that there were no access restrictions to the sample storage room.

The verification team suggests keeping the sample storage in a locked room.

- 4.4 With respect to the point 4.2 above, the verification team observed that the laboratory is in process of accreditation and acquiring a new sample database.

The verification team supports the on-going work towards laboratory accreditation and the project for a new sample database.

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 Sweden (CLAB and Ostersham) 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 Swedish 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.

V. TANNER

Team Leader