



EUROPEAN COMMISSION

DIRECTORATE-GENERAL ENERGY & TRANSPORT  
Directorate H – Nuclear Energy  
TREN.H.4 – Radiation Protection

---

**Main Findings of the Commission's Article 35 Verification in Malta**  
**Maltese National Monitoring Network**  
**for Environmental Radioactivity**

---

**Date:** 2 to 4 September 2008

**Verification team:** Mr F. MacLean (Head of team)  
Mr V. Tanner

**Reference of report:** **MT-08/07**

---

## INTRODUCTION

Article 35 of the Euratom Treaty requires that each Member State 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 facilities for monitoring levels of environmental radioactivity on the territory of the Member State.

For the purpose of carrying out such an assessment, from 2 to 4 September 2008, a verification team from the European Commission visited a number of locations involved in the monitoring of environmental radioactivity in Malta. Some locations had previously been visited during a verification visit carried out in 2006. The main focus of the verification visit was placed upon follow up of progress made since 2006 in the following areas:

- the national environmental monitoring and sampling programme,
- sampling and control of imported foodstuffs, milk and drinking water,
- management of discharges arising from nuclear medicine,
- external gamma dose rate monitoring, airborne radioactivity monitoring and other environmental sampling activity.

The team carried out verifications of facilities at the Environmental Health Laboratory (Valetta and Guardamangia sites), Mater Dei Hospital and the Malta Environment & Planning Authority. The verifications covered provisions for both on-line and off-line radioactivity monitoring.

Recommendations are addressed to the Maltese competent authorities.

## MAIN FINDINGS

The proposed verification programme was completed within the allocated time. The verification team is grateful for the information supplied in advance, as well as for the additional information received during and after the verification.

### **1. Main findings with respect to the national environmental monitoring and sampling programme**

The verification activities performed at the Radiation Protection Board:

- 1.1 Confirmed that an integrated national programme is being applied for monitoring of environmental radioactivity as well as of radioactivity in foodstuffs, drinking water and milk.

However,

- 1.2 With respect to the point 1.1 above the verification team noted that this programme has been designed to meet, but in general not exceed, the requirements of Commission Recommendation 2000/473/Euratom on the application of Article 36 of the Euratom Treaty concerning the monitoring of the levels of radioactivity in the environment for the purpose of assessing the exposure of the population as a whole. In addition, the verification team noted that the implementation of the programme is incomplete in certain areas.

*The verification team recommends further development of the programme towards a more detailed and comprehensive monitoring system, with the possible inclusion of monitoring of precipitation, dry deposition and biota.*

### **2. Main findings with respect to the management of discharges arising from nuclear medicine**

The verification activities performed at the Mater Dei Nuclear Medicine Facility:

- 2.1 Confirmed the existence of a system for control of liquid discharges of radioactivity to the environment.
- 2.2 Established that the facility is satisfactorily equipped and staffed with adequately trained personnel insofar as liquid discharges of radioactivity are concerned.
- 2.3 Established that liquid discharges are handled according to regulatory obligations and that control is exercised through written procedures.

However,

- 2.4 With respect to the point 2.3 above the verification team noted that the actual radionuclide inventory of the discharge tank is estimated, but not measured, before discharge.

*The verification team recommends that the discharge tanks be sampled and analysed prior to discharge.*

- 2.5 With respect to the point 2.3 above the verification team noted that the current practice is to calculate the estimates of discharges for a particular calendar year only after the end of that calendar year.

*The verification team recommends that a running total of discharges be maintained to ensure that annual discharge limits are not exceeded.*

### **3. Main findings with respect to the Public Health Laboratory in Valetta and the laboratory facility at St Luke's Hospital in Guardamangia**

The verification activities performed at the Public Health Laboratory facilities in Valetta and the laboratory facility at St Luke's Hospital in Guardamangia:

- 3.1 Confirmed the application of a sampling and monitoring programme for milk, drinking water and mixed food diet.
- 3.2 Established that, preliminary sample preparation excepted, the analysis of mixed diet, drinking water and milk is contracted to ISO 17025 accredited laboratories outside of Malta.
- 3.3 Established that samples and results are properly managed.
- 3.4 Confirmed that the Guardamangia facility is maintained in an operational state and that qualified and trained personnel are available for its operation.

However,

- 3.5 With respect to the point 3.2 above the verification team noted that there is no analytical capability for the sample analysis in Malta.

*The verification team suggests that in the longer term it would be beneficial to develop national radio-analytical capabilities in order to increase the level of radiological expertise in Malta.*

- 3.6 With respect to the point 3.4 above the verification team noted that there is no regular quality control programme for the detector.

*The verification team suggests updating the operating procedure and addressing measurement quality related matters such as control of peak location, peak width and detector efficiency. The verification team encourages progress towards obtaining ISO 17025 accreditation for the gamma spectrometry facility, which would address the quality issues identified above.*

**4. Main findings with respect to external gamma dose rate, airborne radioactivity and other environmental sampling**

The verification activities performed at the Malta Environment & Planning Authority (MEPA):

- 4.1 Confirmed the existence of an operational monitoring facility for ambient gamma dose rate as defined in the regulatory obligations.
- 4.2 Confirmed the existence of an operational monitoring facility for continuous air sampling and established that the collected filters are analysed in an ISO 17025 accredited laboratory outside of Malta.
- 4.3 Confirmed that the coastal water samples are analysed at an ISO 17025 accredited facility outside of Malta.

However,

- 4.4 With respect to the point 4.1 above the verification team noted that the instrument for ambient gamma dose rate monitoring on Gozo was not yet purchased.

*The verification team suggests increasing the number of dose rate monitors in Malta and supports the intention to install a dose rate monitor on the island of Gozo.*

- 4.5 With respect to the point 4.2 and 4.3 above the verification team noted that there is no analytical capability for analysis of the air filter and water samples in Malta

*The verification team supports all efforts to create relevant radioanalytical capabilities in Malta.*

- 4.6 With respect to the point 4.3 above the verification team noted that sampling of coastal waters had commenced, but the sample taking was considerably behind schedule.

*The verification team recommends that MEPA bring its sampling activities for coastal waters in line with what is set out in the national monitoring programme.*

## CONCLUSIONS

All verifications that had been planned by the verification team were completed successfully. In this regard, the information supplied in advance of the visit, as well as the additional documentation received before the start and during the verification, were helpful. The information provided and the outcome of the verification activities led to the following observations:

- (1) The verification team notes that Malta has introduced an integrated national programme in order to meet the requirements on monitoring environmental radioactivity set out in Commission Recommendation 2000/473/Euratom.
- (2) The verification activities that were performed demonstrated that the monitoring devices necessary for carrying out continuous monitoring of levels of radioactivity in the air, water and soil in Malta are operational, but also that little practical experience had been accumulated by the time of the verification visit.
- (3) A number of recommendations have been formulated. These recommendations aim at improving aspects of environmental surveillance in Malta. The recommendations do not detract from the fact that environmental monitoring in Malta is in conformity with the provisions laid down under Article 35 of the Euratom Treaty.
- (4) The Commission Services suggest that Malta review its arrangements for environmental radioactivity monitoring should neighbouring states embark upon the construction of major nuclear fuel cycle facilities.
- (5) The verification team suggests that the Maltese Authorities reflect upon the long-term desirability of continuing to contract analyses to laboratories outside of Malta.
- (6) The Commission Services request the Maltese competent authorities to inform them of any progress with regard to the situation at the time of the verification.



F. MacLean  
Team Leader