

## Verification of environmental radioactivity monitoring facilities under the terms of Article 35 of the Euratom Treaty

### Practical arrangements for the conduct of verification visits in Member States

(2006/C 155/02)

#### 1. BACKGROUND

- (1) Chapter 3, Health and Safety, of Title II of the Euratom Treaty is concerned on the one hand with the establishment of Basic Safety Standards for the protection of the health of workers and members of the public (Articles 30 — 33) and on the other hand specifically with the surveillance of levels of radioactivity in the environment (air, water, soil) as laid down in Articles 35 — 38.
- (2) Article 35 stipulates that: 'Each Member State shall establish the facilities necessary to carry out continuous monitoring of the level of radioactivity in the air, water and soil and to ensure compliance with the basic standards. The Commission shall have the right of access to such facilities; it may verify their operation and efficiency.'
- (3) Article 36 stipulates that: 'The appropriate authorities shall periodically communicate information on the checks referred to in Article 35 to the Commission so that it is kept informed of the level of radioactivity to which the public is exposed.'
- (4) Furthermore, Commission Recommendation 2000/473/Euratom of 8 June 2000 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 explains: 'To ensure compliance with the Basic Safety Standards it is important that, in addition to air, water and soil, levels of radioactivity be determined in biological samples and in particular in foodstuffs, and ...' and 'the monitoring of levels of radioactivity in soil does not allow a direct assessment of the exposure of the population. The exposure related to soil contamination is more directly assessed on the basis of ... foodstuff contamination ...'. Thus, Commission verifications under Article 35 also cover the monitoring of various biota (food, feed, vegetation).
- (5) Verifications under Article 35 were undertaken in the past, prior to 1 May 2004, in all Member States of the European Union. The practical arrangements for carrying out verifications were agreed on the basis of bilateral meetings held with the authorities concerned in the Member States in order to clarify the scope, intention and conduct of such verifications. Conclusions were subsequently laid down in bilateral protocols forwarded through the Permanent Representatives to the national authorities and approved by the Member States.
- (6) Following enlargement of the Community to 25 Member States, the need was felt to establish a common basis for Article 35 verifications in all Member States by means of a Commission Communication, which may be supplemented,

if necessary, by bilateral protocols between individual Member States and the Commission services.

#### 2. APPLICABILITY OF ARTICLE 35

- (7) Commission verifications cover facilities for environmental monitoring in the Member States, where they form part of a national network ('nation-wide environmental monitoring'). Such networks may be automatic and/or laboratory-based and include both routine measurement of radioactivity in air, water, soil and different biota and the facilities intended to provide an alarm or data in the event of accidents. The latter are included insofar as information from such facilities may give rise to an increased sampling and measuring regime.
- (8) Furthermore, Commission verifications also cover all facilities for monitoring site-related environmental radioactivity as well as liquid or aerial discharges which are operated in installations or linked to activities with a potential for discharging radioactive substances into the environment such as:
  - Nuclear fuel cycle installations (e.g. mining, fuel fabrication, power stations, research reactors, reprocessing plants, radioactive waste disposal sites and repositories),
  - Radioactive isotope production plants,
  - Hospitals using radioactive isotopes,
  - Current and past mining activities (not necessarily limited to uranium mining) and industrial plants discharging effluents containing materials with enhanced levels of natural radionuclides (NORM), insofar as national regulations under Title VII of the Basic Safety Standards (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) apply.

The Commission holds the view that the environment starts where the discharges pass out of operational control and that Article 35 verifications therefore include the facilities for monitoring the aerial and liquid discharges of installations. Such facilities may be located within or outside the installation's premises.

- (9) As far as verifications as referred to in (8) are concerned, no distinction is made between monitoring facilities provided by national authorities and those provided by the plant operator in compliance with statutory requirements — both are included within the scope of the verification exercise.

Generally, the verification covers all facilities for monitoring

- aerial and liquid discharges of radionuclides into the environment ('discharge monitoring'), and
- environmental radioactivity around and in installations ('site-specific environmental monitoring').

### 3. SCOPE OF COMMISSION VERIFICATIONS

- (10) The primary objective of the Commission's verifications is to satisfy itself of (i) the operation and efficiency of the facilities established for the measurement of environmental radioactivity and of radioactive discharges and (ii) the adequacy of the environmental monitoring programme. Efficiency and adequacy are assessed in relation to the overall approach developed at national level to ensure the protection of members of the public in compliance with the Basic Safety Standards. This approach is taken into account but is not itself subject to verification.
- (11) However, the scope of the conclusions to be drawn from the verifications does not include any assessment of the source or the magnitude of the environmental impact of discharges or the levels of radioactivity in the environment.
- (12) The Commission's role does not affect the primary responsibility for ensuring compliance with the Basic Safety Standards, which remains with the individual Member State as stated in Article 33 of the Euratom Treaty. While building confidence in the trustworthiness of environmental monitoring information, verifications may however foster the harmonisation of methods for the measurement of environmental radioactivity and of radioactive discharges.
- (13) Commission verifications should enable a judgement to be made as to the:
- (a) Operation of the environmental and discharge monitoring facilities, i.e. their set-up and use in accordance with the design characteristics of the equipment or measuring devices used,
  - (b) Suitability of sampling and sample preparation methods,
  - (c) Suitability of analytical methods,
  - (d) Compliance with any national regulatory requirements in terms of sampling and analysis (with regard to methods and procedures),
  - (e) Efficiency, defined as the effectiveness of the equipment in the monitoring undertaken (sensitivity, detection parameters, etc.),
  - (f) Management of records of radioactivity discharges and of environmental monitoring results,

(g) Management of sample archives where applicable,

(h) Data handling and reporting procedures, and

(i) Quality control measures, including participation in intercomparison exercises. National accreditations will not be questioned.

- (14) Part of the verifications consists in checking the consistency of the actual set-up of monitoring facilities with the information reported under Articles 36 or 37 of the Euratom Treaty. In particular, general data supplied under Article 37 of the Euratom Treaty will be used where necessary to compare the originally planned environmental monitoring programme with the actual one.

### 4. GUIDING PRINCIPLES FOR SELECTING FACILITIES FOR VERIFICATION

- (15) Verifications are generally performed in accordance with an annual programme set up by the Commission services. This programme will take into account general principles such as: adequate coverage of all Member States; inclusion of installations across the complete spectrum of the nuclear fuel cycle as well as nation-wide monitoring systems, NORM industries and hospitals.
- (16) The Commission will examine any request for verification by a third party. In such a case, Commission Services will first discuss the grounds of the request with the national authorities of the Member State on which territory the verification was requested before taking any decision on whether to perform a verification.

### 5. PLANNING OF VISITS

- (17) The duration of a visit will generally be five days, on the basis of a work programme defined in close collaboration with the Member State's competent authority. The visit may encompass
- environmental monitoring facilities (nationwide and site-specific),
  - aerial discharge monitoring facilities,
  - liquid discharge monitoring facilities,
  - data centres.
- (18) The visits are announced as far as possible at least two months in advance so that the competent authority can make the necessary arrangements. Once the date of the visit is confirmed, the Commission services will inform the competent authority of the composition of the verification team, which normally comprises two to four representatives, possibly also including national experts on secondment to the Commission.

- (19) The Commission services will request information relevant for the preparation of the visit such as reports, descriptions, schematics, maps, etc. well in advance, in order to allow the competent authority to compile the information.
- (20) Should the Commission services intend to introduce onto any site visited a source of radioactivity (for example, for calibration purposes), they will indicate this in writing to the Member State, to allow for authorisation and registration procedures where necessary.
- (21) Member States will make all necessary arrangements so that the Commission's verification team is accompanied by representatives of the competent authority and, as appropriate, of the site and network operator.

## 6. PRACTICAL ARRANGEMENTS

- (22) The Member State where the verification is being carried out will take all appropriate measures to facilitate the Commission's task, as provided for in Article 192 Euratom. To this end, national authorities are expected to cooperate with the verification team at all stages of the verification.
- (23) All members of the Commission's verification team will act in conformity with the regulations laid down for safety and security at each location visited; these regulations include all the rules governing hygiene, radiological protection and security pertaining to each site. All members of the Commission's verification team will comply with the necessary entry formalities that apply to visitors.
- (24) The members of the Commission's verification team will be able to communicate with the authorities and plant operator personnel in a common, mutually understood language. It is understood that the host country will not be requested to provide for the translation of the documentation. However, the Commission services would highly appreciate it if the essential documents could be made available in electronic form prior to the scheduled visit, as this would increase the efficiency of the visit and facilitate any translation.
- (25) To carry out its mission, the Commission's verification team needs to consult such documents that are necessary to form a judgement on the operation and efficiency of the monitoring equipment. To this end, the Commission's verification team will consult reports and registers containing the results obtained from the monitoring facilities.
- (26) Copies of data and documents not in the public domain will not be taken away by any member of the Commission's verification team, except with the express agreement of the representative of the competent authority.

## 7. REPORTING

- (27) A technical report will be drawn up by the Commission's verification team and will serve as a basis for the main findings. Within six months after the visit or after the receipt of additional information requested during the visit, a draft version of this technical report will be sent to the competent authorities of the country visited, in order to have its factual accuracy checked. This is without prejudice to the exercise by the Commission of its rights as guardian of the Treaty, as provided for in particular in Article 141 of the Euratom Treaty. Comments by the competent authority on the draft technical report will be taken into consideration for the final version of the technical report. The technical report will be distributed as an annex to the main findings.
- (28) The main findings and recommendations arising from the verification exercise will be reported to the Commission, which will send a copy to the Member State visited. If the request for verification came from a third party, a copy will be sent to the latter.
- (29) The Commission's practice is to publish the main findings and the technical report, together with any comments by the Member State explicitly intended for this purpose, on the Commission's website with due respect for any concerns voiced by the Member State concerning proprietary and commercial issues.
- (30) The Member State visited may publish the main findings and the technical report in an unaltered form after publication by the Commission.
- (31) A general report on the Commission's verification programme will be drawn up at appropriate times for the attention of the European Parliament and Council.

### Clarification of some terms used in this Communication

#### *Competent authority:*

Any national regulatory body or authority designated or otherwise recognised as such for any purpose in connection with Article 35 Euratom.

#### *Monitoring facility:*

All (technical) equipment used for sampling, sample preparation or radioactivity or radiation measurement, including field and laboratory measurements. Monitoring facilities may be part of an automatic or a manual system, and may concern aerial or liquid discharges or environmental media.

#### *Installation:*

Premises with the potential to give rise to radioactive discharges; they include nuclear fuel cycle installations, mine tailings and waste repositories, and also medical, industrial and research establishments. Aerial and liquid discharges may occur at one or more locations (stacks, ducts, pipes).

*National network:*

Network operated by or on behalf of one or more national competent authorities. Generally, such a network may consist of several sub-networks, and will cover the whole country.

*Network:*

Automated or laboratory-based system for the surveillance of environmental radioactivity. An automated network may measure the ambient gamma dose rate, may sample surface air and measure aerosol-bound or gaseous radioactivity, or may measure gross or nuclide-specific activity in waters. A laboratory-based network may consist of different institutions that sample various environmental media, which are then analysed in laboratories. Generally, data are stored, processed and archived in a data centre. (A network that is designed to measure primarily high radiation levels (for warning and defence purposes) is not deemed to be within the remit of Article 35 verifications.)

*Plant:*

Used here as a synonym for 'installation' in specific contexts (e.g. reprocessing).

*Discharge monitoring:*

Technical, organisational and procedural provisions for analysing and evaluating (on-line or off-line) aerial or liquid discharges at the last point before leaving operational control. The corresponding facilities may be situated within the site of the installation or off-site. In a nuclear power plant, for example, this would include any facilities for sampling and measurement of such releases (whether in pipes or in holding tanks), control of release (such as valves), laboratory analysis of

discharge samples or the calculation of released activity. The general objective is to register and evaluate the amount of radioactivity that is released to the environment where it could have an impact on the environment or — directly or indirectly — on the public. (It should be noted that Article 35 verifications do not deal with the activity levels of discharges per se, but rather with the methods and procedures used to monitor them, and would not cover any analysis done only for the operational control of the installation.)

*Environmental monitoring:*

Technical, organisational and procedural provisions for analysing the ambient radiation level and levels of radioactivity in the environment. On a national scale, this is usually achieved with one or more monitoring (automatic or laboratory-based) networks; environmental monitoring specific to a site may use automated networks or may be based on a pre-defined scheme of sampling and sample analysis procedures. The general objective is to register any impact on the environment (e.g. as regards activity concentrations in various media) and any changes of contamination with time, and ultimately to supply the basis for estimates of (population) exposure. (It should be noted that Article 35 verifications do not deal with the activity levels in the environment per se, but rather with the methods and procedures used to monitor them.)

*Data Centre:*

Facility equipped with storage and communication hardware and software and with appropriate procedures to acquire, store and archive data from monitoring activities. Data presentation may be in the data centre itself or in remote data presentation centres such as national or local supervising bodies.

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