II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 4 March 1992

relating to a procedure in application of Article 83 of the Euratom Treaty

(XVII-002 — UKAEA Dounreay)

(Only the English text is authentic)

(92/194/Euratom)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Article 83 thereof,

Having given UKAEA Dounreay (United Kingdom) the opportunity to express its point of view on the objections raised by the Commission,

Whereas as follows:

I. THE FACTS

This Decision concerns non-compliance with essential safeguard requirements by the United Kingdom Atomic Energy Authority (UKAEA Dounreay) (UK) during the period from April to November 1991.

The Dounreay site is located about 10 miles west of Thurso in Scotland (UK). The site comprises both military and civil installations which are physically separated.

The civil part of the site comprises major installations performing a variety of fuel-cycle activities, such as operating a fast reactor, plutonium reprocessing, uranium fuel reprocessing, uranium fuel fabrication, waste treatment/disposal, a decommissioned prototype fast reactor and laboratories/other associated services.

Within the uranium fuel fabrication installation a rebuilt, upgraded and refurbished uranium scrap/residue recovery plant was put into operation in September 1990. This plant is designed to recover valuable uranium contained in all sorts of 'odd' materials such as residues, ashes, scraps etc. stemming from fabrication of uranium fuel.

Through a series of documents referred to hereinafter, on-site verifications and the hearing held in Brussels in the offices of the Commission on 10 February 1992, the following facts were established:

— In the course of 1991 the UKAEA Dounreay Management became increasingly concerned about the adequacy of the accounting system for nuclear materials and improvement was considered necessary. Following a physical inventory taking in March 1991, Euratom safeguards inspectors drew the attention of UKAEA Dounreay to shortcomings in the accountancy system and in particular to unrecorded transfers.

— In August 1991 the uranium scrap/residue recovery plant underwent some modifications following Euratom inspectors' findings. Despite this, unrecorded transfers continued and were notified to the operator by Euratom safeguards inspectors who also drew the operator's attention to deficiencies in the records system.

— In November 1991 the operator carried out one of the two physical inventory takings which are required under code 5 of the Commisison Decision of 4 February 1981 laying down particular safeguard provisions. On 30 November 1991 UKAEA Dounreay completed the physical inventory taking at the uranium fuel fabrication installation. Its results reveaaled an unacceptably high difference between the physical and the book stocks of uranium (Material Unaccounted For : 'MUF') which was attributed predominantly to the uranium scrap/residue recovery plant.

— On 4 December 1991 UKAEA Dounreay decided to withdraw the Authority To Operate (ATO) for the plant and to set up an Internal Inquiry Team to Investigage the circumstance leading to the unacceptably high MUF and to make appropriate recommendations.

— Immediate anomaly investigation procedures were carried out by Euratom safeguard inespectors in December 1991 and January 1992 and a reinventory after a complete wash out was considered necessary. These investigations up to the re-inventory established or reconfirmed :

  — an insufficient oeprating records system,

  — an overstatement of shipper's data (considered only likely for a small proportion of the material treated),

  — undeclared transfers between the uranium scrap/residue recovery plant and the waste plant,

  — uncertainties in the weights of slags, swabs and sweepings (these weights seemed to be underestimated),

  — unmeasured quantities of uranium in the solvent,

  — unmeasured inventories in tanks and in the dissolvers,

  — inconsistent measurements on slags from some campaigns,

  — a number of unrecorded transfers having taken place during the material balance period,

  — material omitted from the inventory in November 1991.

— On 22 January 1992 the UK Department of Energy transmitted to the Commission the report of the UKAEA Inquiry Team which concluded that the originally assessed MUF had to be reduced considerably.

— On 3 February 1992 the re-inventory was completed and also showed a considerable reduction of the originally assessed MUF.

— After the hearing of 10 February 1992 the Euratom Safeguards Inspectorate confirmed its previous findings set out above and concluded that altough the remaining MUF's were not significantly different from the zero-hypothesis, the associated uncertainties and the original high MUF indicate significant deficiencies in the operator's materials accounting system for transfers, inventory procedures and system of measurement.

The facts related to the failures of the accounting system and its implementation are not disputed by the operator.

II. LEGAL ASSESSMENT

A. *The legal provisions*

By virtue of its activities, UKAEA Dounreay is an undertaking falling within the terms of Article 196 (b) of the Euratom Treaty. It is therefore subject to the provisions of Chapter VII, Title Two, of the Treaty, to Commission Regulation (Euratom) No 3227/76 of 19 October 1976 concerning the application of the provisions on Euratom safeguards [1], as amended by Regulation (Euratom) No 220/90 [2], and to the Commission Decision of 4 February 1981 laying down the particular safeguard provisions for this undertaking.

In accordance with Article 77 of the Treaty, the Commission must satisfy itself that, in the territories of the Member States :

(a) ores, source materials and special fissile materials are not diverted from their intended uses as declared by the users ;

(b) the provisions relating to supply and any particular safeguarding obligations assumed by the Community under an agreement concluded with a third State or an international organization are complied with.

To this end the Commission requires, in accordance with Article 79 of the Treaty, that operating records be kept and produced in order to permit accounting for ores, source materials and special fissile materials used or produced. The same requirement applies in the case of the transport of source materials and special fissile materials.

Pursuant to Article 3 of Regulation (Euratom) No 3227/76 the particular safeguard provisions shall specify those important changes in the basic technical characteristics for which advance notification is required. Any other changes in the basic technical characteristics shall be communicated to the Commission, together with the first inventory change report made after the modification is complete.

[1] OJ No L 363, 31. 12. 1976, p. 1.
[2] OJ No L 22, 27. 1. 1990, p. 56.

As regards nuclear material accontancy and control the specific requirements concerning control of measurement accuracy and statistical evaluation are set out in detail in items 24 and 25 of Annex I C to Regulation (Euratom) No 3227/76.

Pursuant to Article 9 of Regulation (Euratom) No 3227/76 the undertakings shall maintain a system of accounting for and control of nuclear materials. This system shall include accounting and operating records and, in particular, information on the quantities, nature, form and composition of these materials, their actual location and the particular safeguarding obligation. The system of measurements on which the records are based shall comply with the most recent international standards or shall be equivalent in quality to those standards. On the basis of these records it must be possible to establish and justify the communications addressed to the Commission.

Specific records requirements are set out in code 3 of the Commission Decision of 4 February 1981 laying down particular safeguard provisions.

Pursuant to Article 10 of Regulation (Euratom) No 3227/76 the acconting records shall show in respect of each material balance area :

— all inventory changes, so as to permit a determination of the book inventory at any time,

— all measurement and counting results that are used for determination of the physical inventory,

— all corrections that have been made in respect of inventory changes, book inventories and physical inventories.

Thus for all inventory changes and physical inventories the accounting records shall show, in respect of each batch of nuclear material, material identification, batch data and source data. Moreover for each inventory change, the date of the inventory change and, when appropriate, the dispatching material balance area and the receiving material balance area or the recipient, shall be indicated.

Article 11 of Regulation (Euratom) No 3227/76 provides that the operating records shall include, if appropriate, for each material balance area :

— those operating data which are used to establish changes in the quantities and composition of the nuclear material,

— the data obtained from the calibration of tanks and instruments and from sampling and analysis, the procedures to control the quality of measurements and the derived estimates of random and systematic error,

— a description of the sequence of actions taken in preparing for, and in taking, a physical inventory in order to ensure that it is correct and complete,

— a description of the actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss that might have occurred.

In accordance with Article 14 of Regulation (Euratom) No 3227/76 the undertakings shall transmit to the Commisison, for each material balance area, inventory change reports in respect of all nuclear materials. The reports shall identify the materials and give batch data for each batch thereof, the date of the inventory change and, when appropriate, the dispatching material balance area and the receiving material balance area or the recipient.

Pursuant to Article 16 of Regulation (Euratom) No 3227/76 the undertakings shall transmit to the Commission, for each material balance area, material balance reports showing :

— beginning physical inventory,

— inventory changes (first increases, then decreases),

— ending book inventory,

— ending physical inventory,

— material unaccounted for.

A physical inventory listing with all batches separately giving, *inter alia,* identification of the materials and giving batch data for each batch thereof and the use which the persons or undertakings concerned intend to make of the materials, shall be attached to each material balance report.

B. *The infringements established*

Following an examination of the facts by the Euratom Safeguards Directorate, the following infringements have been established :

1. Breach of the provisions on the obligation to communicate in advance changes in the basic technical characteristics laid down in Article 3 of Regulation (Euratom) No 3227/76 in conjunction with items 24 and 25 of Annex I C thereof ;

2. Breach of the provisions on accounting for and control of nuclear materials laid down in Article 9 of that Regulation, in conjunction with code 3 of the Commission Decision of 4 February 1981, particularly as regards :

   — data on changes in quantities, nature, form and composition of these materials and their actual location,

   — non-compliance of the system of measurements with the most recent international standards or their equivalent ;

3. Breach of the provisions on recording inventory changes and physical inventories laid down in Article 10 of that Regulation;

4. Breach the provisions on operating records for transfer of nuclear material laid down in Article 11 of that Regulation;

5. As a consequence of 2 to 4, breaches of the provisions on the reporting of inventory changes and physical inventory data laid down in Articles 14 and 16 of that Regulation.

C. *The sanction to be applied*

Under the terms of Article 83 (1) of the Treaty, in the event of an infringement on the part of persons or undertakings of the obligations imposed on them, the Commission may impose sanctions on such persons or undertakings.

These sanctions are in order of severity;

(a) a warning;

(b) the withdrawal of special benefits such as financial or technical assistance;

(c) the placing of the undertaking for a period not exceeding four months under the administration of a person or board appointed by common accord of the Commission and the State having jurisdiction over the undertaking;

(d) total or partial withdrawal of source materials or special fissile materials.

Given that the determining criterion for application of this Article is the severity of the infringement committed, it is first necessary to carry out both an objective and a subjective analysis of the nature of the offences.

From an objective point of view, the provisions breached are essential elements of Community legislation in the field of safeguards, and observance of them is essential if the aims set out in Articles 77 and 79 of the Treaty are to be attained.

In assessing the severity of the infringements, however, objective specificities in the operation of the uranium scrap/residue recovery plant must be taken into account. These specificities are in particular due to the nature and complexity of the chemical processes involved. In addition, the exact chemical composition of input materials may sometimes not be fully known due to their inhomogeneity and their mixed origins.

Because the uranium scrap/residue recovery plant in question does not treat irridiated nuclear materials, it does not come under Article 78 (2) of the Treaty which requires the Commission to approve the techniques to be used for the chemical processing of irradiated materials.

Despite apparent shortcomings of the measurement systems and the accounting system applied, the investigations carried out finally resulted in converging low MUF figures, indicating that a diversion of nuclear materials to purposes other then those for which they were intended cannot be stated.

From a subjective point of view, if appears that there was no intention behind the actions and that these should not be seen as a form of diversion.

Moreover, it is to be noted that the operator, experiencing doubts about the adequacy of his accounting system, partly due to the Euratom safeguards inspectors' comments, decided to postpone a physical inventory taking to November 1991 in order to wash out the plant.

In carrying out this physical inventory taking, the operator himself detected the deficiencies of the accounting system through his investigations into the causes of the MUF. Upon detecting the MUF, the operator decided to take the following immediate actions:

— informing Euratom safeguards inspectors on site,

— withdrawal of the authority to operate the uranium scrap/residue recovery plant,

— notification of the incident to the UK Department of Energy and to the Commission,

— setting up of an inquiry team.

In appreciating both the objective and the subjective factors set out above the Commission feels that the infringements committed by UKAEA Dounreay are such that a sanction is warranted.

Given the nature of the failures established, the Commission regards it essential that all necessary action be taken to rectify the situation and to ensure that failures cannot recur in the future, all the more so since UKAEA Dounreay intends to continue to operate the uranium scrap/residue recovery plant.

In order to guarantee that the shortcomings of the measurement systems and the failures of the accounting system fo not recur, appropriate measures to improve them must be drawn up and implemented.

In view of the nature of the failures recognized and in order to guarantee that the failures do not recur, and taking into account that the operation of the uranium scrap/residue recovery plant has been suspended since immediately after the physical inventory taking in November 1991 and there is therefore no immediate danger of a recurence of the failures as long as the plant is not operating, the appropriate sanction to impose is that laid down in Article 83 (1) (a) of the Treaty.

It is necessary however, formally to require the operator to rectify the failures so that they do not recur when the plant resumes normal operation and to warn him about the possible consequences of a continued breach of the relevant provisions under Community law.

In order to enable the Commission to satisfy itself that the legal requirements will be fully met in the future, the operator should report on the intended rectifications and the actual performance of the rectified accounting system. In assessing the structural system modifications and their implementation, the Commission will also take into account whether the operator has made the necessary improvements in the following areas not covered in the recommendations of the UKAEA Inquiry Team Report :

— technical methods and measurement procedures for waste streams,

— procedures for materials control, materials accounting (source documentation, operating records, accounting records, reports), and physical inventory taking, including implications of human factors and consideration of decommissionned plant areas containing nuclear material,

— declaration of basic technical characteristics to take account of modifications of measurement methods, accuracy values and changed procedures,

— the possible positive impact on the materials accounting system of the operational separation of processing of well characterized residues from inhomogeneous material,

HAS ADOPTED THIS DECISION :

Article 1

UKAEA Dounreay has infringed Article 79 of the Treaty as defined in Articles 3, 9, 10, 11, 14 and 16 of Commission Regulation (Euratom) No 3227/76 of 19 October 1976 and in code 3 of the Commission Decision of 4 February 1981 laying down particular safeguard provisions, through :

(a) its failure to communicate in advance changes in the basic technical characteristics of its uranium scrap/residue recovery plant ;

(b) its failure to maintain a system of accounting for, and control of, nuclear materials which includes accounting and operating records and, in particular, information on the quantities, nature, form and composition of these materials and their actual location ;

(c) its failure to apply a system of measurements on which the records are based which complies with the most recent international standards ;

(d) its failure to meet the requirements on recording inventory changes and physical inventory data ;

(e) its failure to meet the requirements on operating records for transfer of nuclear material ;

(f) as a consequence of the failures listed under (b) to (e), its failure to report inventory changes and physical inventory data.

Article 2

1. The Commission issues a warning to UKAEA Dounreay.

2. The warning is imposed with the understanding that the failures listed in Article 1 be rectified so that they do not recur when the uranium scrap-residue recovery plant resumes operations for purposes other than testing or calibration.

3. Based on the reports referred to in Article 3 and its own verifications the Commission will assess UKAEA Dounreay's compliance with the requirement set out in paragraph 2.

4. If UKAEA Dounreay does not provide the Commission with the report referred to in Article 3 (2) or if any of the failures listed in Article 1 is not rectified when the uranium scrap/residue recovery plant has resumed its normal operation, the Commission will consider imposing a further sanction.

Article 3

1. UKAEA Dounreay shall provide the Commission with a report describing the measures intended to rectify the failures listed in Article 1 at least two weeks before the uranium scrap/residue recovery plant resumes its normal operation.

2. Within one month after the uranium scrap/residue recovery plant has resumed its normal operation UKAEA Dounreay shall provide the Commission with a report on the performance of the rectified accounting system.

Article 4

1. This Decision is addressed to the United Kingdom Atomic Energy Authority, Corporate Headquarters, 11 Charles II Street, London SW1Y 4QP.

2. This Decision shall be communicated to the United Kingdom.

Done at Brussels, 4 March 1992.

For the Commission

António CARDOSO E CUNHA

Member of the Commission