

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(80) 681 final

Brussels, 7th November 1980

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL

concerning an Agreement in the form of an Exchange of Letters
between the International Atomic Energy Agency on the one hand and the
Commission on behalf of the European Atomic Energy Community,
on the other, on cooperation in the field of
research and development in Safeguards

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1. The increasing spread of nuclear materials in circulation and use has become a matter of worldwide concern for both policy makers and public opinion and highlights the importance of safeguards systems that are internationally recognised as being effectively installed and implemented. The Community has been operating its own safeguards system for over twenty years and this has been supported technically by research work undertaken at the Joint Research Centre aimed at not only improving the safeguards applied but also adapting constantly the relevant techniques for changing requirements in this field.
2. The research and development experience is also of great significance to the IAEA as a result of trilateral agreements with the Community and its Member states. The growing collaboration in inspections between the Agency and EURATOM underlines the importance of EURATOM's contribution to the knowledge and experience thereby gained by the Agency in the safeguards field. It was therefore felt that cooperation between EURATOM and the IAEA would be mutually beneficial. Moreover such cooperation from the Community's viewpoint would not only encourage research, it would also provide a channel through which the results obtained in Europe could be presented more effectively in the international framework covered by the IAEA.
3. The basis for this cooperation is the framework agreement between EURATOM and the IAEA which was signed in 1975 (1) and whilst as a result of this consultations and information exchanges have taken place between the Agency and the Community, it is now proposed that arrangements for cooperation in R & D should be formalised. The most appropriate manner for this to be done is considered to be in the form of an Exchange of Letters setting out the terms of the cooperation together with a list of technical tasks to be covered. The Scope of this cooperation provides for the widest possible dissemination of information. However, it is not envisaged that there will be any problems concerning intellectual property since information containing trade secrets or other privileged or confidential commercial information is specifically excluded from the exchange.
4. The intention to collaborate with the IAEA with on going and future activities of the JRC's own programme of R & D in Safeguards was supported by the ACPM on Fissile Material Control in its opinion dated October 1978. Moreover, it would be consistent with the Commission's declaration to strengthen collaboration with the IAEA which was made at the time the Council agreed the JRC's programme for 1980-1983 (2).

- .5. The Commission informs the Council of its intention to conclude an agreement in the form of an Exchange of Letters with the IAEA which conforms with the procedure envisaged by Article 101 (3) of the EURATOM Treaty. The draft letters to be exchanged and technical annex are annexed to this communication.

A. LETTER FROM EURATOM

Dear Director General,

The world wide use of nuclear technology underlines not only the need that an effective safeguards system, internationally recognized, is installed and implemented, but that standards of such safeguards should be continuously improved. In this respect, the efforts of the International Atomic Energy Agency in developing safeguards are well known and widely supported. The European Atomic Energy Community (hereafter referred to as EURATOM) represented by the Commission of the European Communities shares this concern for improved standards of safeguards and is prepared to communicate to the IAEA its own considerable technical experience in this field through a formal cooperative support programme between the IAEA and EURATOM in the field of safeguards research and development.

In this context, I have the honour, on behalf of EURATOM, to inform you of the following proposal within the framework of the Cooperation Agreement between our two organizations of 1975.

- 1) EURATOM supports the Agency in the field of developing and implementing effective safeguards. It proposes that in the field of safeguards research and development, a cooperative support programme comprising of an exchange of research and development experience as well as the provision of expert advice to the Agency shall be established.
- 2) The cooperative support programme will be developed from on going and future activities of the research programme of the Joint Research Centre of EURATOM. The list of tasks envisaged at present is enclosed in Annex I and will, where appropriate, be further supplemented and updated in the agreement between both Parties. The programme will cover the following areas of R & D activity :

- surveillance and containment;
 - measurement technology;
 - training courses;
 - information data, treatment and evaluations.
- 3) It is envisaged that this programme should consist chiefly of the exchange of information, subject to article 3 of the Cooperation Agreement on research and development experience in both organizations, and on practical experience of field tests. Priorities of research and development should then be established. This cooperative support programme should result in technical assistance in fields where further expertise is required, in the harmonisation of techniques and procedures of potential use in safeguards implementation and in the evaluation of priorities of research and development as a function of the requirements of the application of safeguards in the EURATOM fuel cycle. Also studies on safeguards systems for future plants may be included later.
- 4) EURATOM and the Agency will agree on specific tasks and designate the responsible contact person on either side.
- 5) A Joint Committee of representatives of the Agency and EURATOM shall be established in order to facilitate the exchange of information and results of the cooperative support programme. Furthermore, the Committee shall consider the progress of the cooperative programme in order to update the list of tasks, clarify issues raised by both sides during the execution of the programme and examine the results of the individual tasks.
- 6) The results of the tasks shall be available through the Joint Committee and may be used by either party appropriately to improve safeguards. The results may be publicised as appropriate in collaboration with EURATOM.

The Parties agree to support the widest possible dissemination of information provided under this exchange of letters, it being understood that :

- information which contains trade secrets or other privileged or confidential commercial information shall be excluded from this exchange and that prior contractual commitments should be respected.
- information given by one Party to the other under this exchange of letters shall be accurate to the best knowledge and belief of the Party giving it, but neither Party gives any warranty as to the accuracy of such information or shall have any responsibility for the consequences of any use to which such information may be put by the other Party or by any third Party.

7) The cooperative support programme may be terminated either by the Agency or by EURATOM subject to 6 months notice of termination by either Party.

I should be grateful if you would kindly inform me of your acceptance of this offer. If this is the case, then my letter and your reply expressing your acceptance shall constitute an agreement between EURATOM and the IAEA, which agreement shall come into effect on the date of your reply.

CONTAINMENT AND SURVEILLANCE

1. Further application of CANDU cap seals (in collaboration with AECL).
 - (a) adaptation of electronic equipment
 - (b) use of integrated sensors and reliability test
2. Vulnerability tests of ultrasonic seals for general purpose (in collaboration with USA).
3. Make available to IAEA portable ultrasonic identification electronics for testing purposes (digital and/or analog).
4. Develop a system for identification and integrity verification of nuclear material containers
 - (a) Pu storage containers
 - (b) U_3O_8 NDA RM
 - (c) fuel pin NDA RM
 - (d) Pu NDA isotopic standard
5. Test of multilock TV systems
 - (a) delivery of system for evaluation at IAEA HQ
 - (b) EURATOM-IAEA field evaluation
6. Development of surveillance systems with ultrasonic technology in spent fuel storage (in collaboration with CEN).
7. Comparison of fibre optic and ultrasonic seals for fissile material storages. (in collaboration with CEN).

Pro Memoria

8. Assessment of seals for PWR and BWR reactor assemblies.
9. Experience on the application of rivet seals for MTR type fuel elements.
10. Assessment of seals for fast reactor assembly.
11. Identification of spent fuel pebbles containers.

Tasks 8, 9, 10 and 11 are already performed in the frame of the FR Germany support programme to IAEA.

MEASUREMENT TECHNOLOGY

1. Development of criteria and procedures for NDA measurement data treatment and retrieval in and off line.
2. Exchange of information and procedures for the Pu isotopic ratio measurements by gamma-ray spectrometry.
3. Extend the field of application of Sb-Be interrogation device.
4. Make available to IAEA inspectors of the calibration laboratory for NDA equipment at JRC Ispra.
5. Make available to IAEA an UF_6 sampling instrument for testing purposes (HEU and LEU).
6. Provide information on the development of a transportable mass spectrometer for the assay of nuclear materials in enrichment and reprocessing plants.
7. Provide information on the review on measurement techniques applied at the input accountancy tanks of reprocessing plants.
8. Study on the calibration of input accountancy tanks using spiking techniques.
9. Setting up of a data bank for the ICT.
10. Preparation and characterisation of spike RMs for IAEA-SAL.
11. Characterisation of IAEA used RMs.
12. Umpire isotopic measurements for IAEA.
13. Organisation of interlaboratory measurement evaluation programme including preparation of test samples.
14. Automatic data analysis evaluation of reprocessing safeguards analysis.
15. Implementation of NDA standards in facilities
 - (a) procurement and control of standards employed for safeguards measurements
 - (b) procedures for employment of standards

Training

1. Specialised training courses on use of EURATOM equipment.

INFORMATION, DATA TREATMENT AND EVALUATIONS

1. Application of NUMSAS code for MUF and variance of MUF calculations.
 - (a) installation of the code at IAEA HQ
 - (b) preparation of typical measurement history for the batch for declarations in different types of fabrication plants (HEU, LEU, MOX) and reprocessing plants and adaptation of statistical models.
2. Evaluation of plant measurements systems by sensitivity analysis of variance of MUF for typical material balances.
3. Study on the verification of fast response accountancy systems.
4. Data Base Management System approach to nuclear material accountancy.

B. LETTER FROM INTERNATIONAL ATOMIC ENERGY AGENCY

Sir,

I have the honour to acknowledge receipt of your letter dated _____ stating the following :

The world wide use of nuclear technology underlines not only the need that an effective safeguards system, internationally recognized, is installed and implemented, but that standards of such safeguards should be continuously improved. In this respect, the efforts of the International Atomic Energy Agency in developing safeguards are well known and widely supported. The European Atomic Energy Community (hereafter referred to as EURATOM) represented by the Commission of the European Communities shares this concern for improved standards of safeguards and is prepared to communicate to the IAEA its own considerable technical experience in this field through a formal cooperative support programme between the IAEA and EURATOM in the field of safeguards research and development.

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The Parties agree to support the widest possible dissemination of information provided under this exchange of letters, it being understood that :

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7) The cooperative support programme may be terminated either by the Agency or by EURATOM subject to 6 months notice of termination by either Party.

I should be grateful if you would kindly inform me of your acceptance of this offer. If this is the case, then my letter and your reply expressing your acceptance shall constitute an agreement between EURATOM and the IAEA, which agreement shall come into effect on the date of your reply."

I am pleased to inform you that the International Atomic Energy Agency can agree to cooperate with the European Atomic Energy Community in the field of research and development in Safeguards under the terms set forth in your letter.

Please accept, Sir, the assurance of my highest consideration.