

**No. 7321**

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**INTERNATIONAL ATOMIC ENERGY AGENCY  
and  
NORWAY, POLAND and YUGOSLAVIA**

**Agreement (with annexes) concerning co-operative research in reactor physics. Signed at Vienna, on 28 February and 10 April 1964**

*Official text: English.*

*Registered by the International Atomic Energy Agency on 26 June 1964.*

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**AGENCE INTERNATIONALE DE L'ÉNERGIE ATOMIQUE  
et  
NORVÈGE, POLOGNE et YOUGOSLAVIE**

**Accord (avec annexes) concernant des recherches en commun sur la physique des réacteurs. Signé à Vienne, les 28 février et 10 avril 1964**

*Texte officiel anglais.*

*Enregistré par l'Agence internationale de l'énergie atomique le 26 juin 1964.*

No. 7321. AGREEMENT<sup>1</sup> BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENTS OF NORWAY, POLAND AND YUGOSLAVIA CONCERNING CO-OPERATIVE RESEARCH IN REACTOR PHYSICS. SIGNED AT VIENNA, ON 28 FEBRUARY AND 10 APRIL 1964

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WHEREAS it is a function of the International Atomic Energy Agency (hereinafter the "Agency") to encourage and assist research on and the development of reactor physics, which function can be fulfilled in a rational manner by furthering co-operation in the carrying out of research in its Member States so as to assist in achieving the aims of the Agency's current and long-term programme;

WHEREAS the Government of the Kingdom of Norway (hereinafter "Norway"), the Government of the People's Republic of Poland (hereinafter "Poland") and the Government of the Socialist Federal Republic of Yugoslavia (hereinafter "Yugoslavia") (together hereinafter the "Governments") recognize that within their individual national programmes of reactor physics research there exist areas of common interest susceptible of co-operative investigation;

WHEREAS the Agency and the Governments desire to further the science of reactor physics by establishing closer liaison among their national research institutions so as to make possible the more effective use of their collective resources in the planning, implementation and interpretation of research into those fundamental problems that are of common interest to them;

WHEREAS the Agency and Norway have since April 1961 carried out a joint programme of research in reactor physics with the zero-power reactor NORA,<sup>2</sup> which research is closely related to the areas of common interest of the Governments;

Now, THEREFORE, the Agency and the Governments agree as follows :

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<sup>1</sup> Came into force on 10 April 1964, upon signature, in accordance with section 26 of article XIII.

<sup>2</sup> For the texts of the agreements whereby this programme was established and extended, see United Nations, *Treaty Series*, Vol. 402, pp. 255 and 360 of this volume.

*Article I*

## THE CO-OPERATIVE PROGRAMME

*Section 1.* The Governments agree, in co-operation with each other and with the Agency, to conduct through their national nuclear research institutions a programme of research in reactor physics (hereinafter the “Co-operative Programme”), whose technical objectives are stated in Annex A.<sup>1</sup>

*Article II*

## CONTRIBUTIONS OF THE PARTIES

*Section 2.* For the purpose of the Co-operative Programme each of the Governments shall :

- (a) Make available for use during sufficient periods to permit the implementation of the respective assigned portions of the Programme the reactors and subcritical assemblies described in the respective parts of Annex B<sup>1</sup> (collectively hereinafter the “installations”), together with the materials, associated facilities and equipment listed therein. Each of the Governments shall also provide the services of such personnel as are required to operate, maintain and administer its installations during such periods and shall bear all costs connected with such operation, maintenance and administration;
- (b) In accordance with Section 9, make available each year at its installations positions for at least two scientists;
- (c) In accordance with Section 10, nominate for work at the installations of the other Governments scientific and technical personnel from among its nationals, taking into account the recommendations of the Joint Committee.

*Section 3.* For the purpose of the Co-operative Programme the Agency shall :

- (a) Provide annually at least six fellowships to facilitate the exchange of scientific and technical personnel among the installations and the supply of such personnel from other countries, in accordance with Article IV;
- (b) Assist in the compilation, publication and distribution of the results of the Programme;
- (c) Consider requests supported by the Joint Committee for the granting of research contracts to assist particular parts of the Programme, within the limits of the funds available to the Agency for this purpose;

<sup>1</sup>See p. 262 of this volume.

- (d) Consider the Programme as an approved Agency project, which the Agency will assist in securing materials, services, equipment and facilities available to it, if a request for such assistance is made by one or more of the Governments and supported by the Joint Committee.

### Article III

#### PROGRAMME SUPERVISORS AND JOINT COMMITTEE

*Section 4.* Each of the Governments shall appoint a Programme Supervisor who shall :

- (a) Prepare annually a detailed proposal for the implementation at his national nuclear research institutions of a portion of the Co-operative Programme;
- (b) Supervise the implementation of the portion of the annual research plan assigned to his national nuclear research institutions;
- (c) Report to the Joint Committee at each of its regular sessions on the implementation of the respective portion of the Co-operative Programme.

*Section 5.* There shall be established a Joint Committee for the Co-operative Programme (hereinafter the " Joint Committee "), composed of two representatives of the Agency and of one representative of each of the Governments. These may be accompanied by advisers who shall, whenever possible, include those Programme Supervisors who are not members of the Committee. The Chairman shall be elected annually by the Committee from among its members.

*Section 6.* The Joint Committee shall provide the scientific guidance of the Co-operative Programme and shall :

- (a) Establish annually, on the basis of the detailed proposals submitted by the Programme Supervisors, a detailed research plan for carrying out the Co-operative Programme, and assign appropriate portions of it to each of the national nuclear energy research institutions within such budgetary limits as the Government concerned may establish;
- (b) Consider the reports of the Programme Supervisors;
- (c) Approve the placement of exchanged and supplied personnel in accordance with Section 11, the exchange of materials and equipment between the Governments in accordance with Section 14, and further agreements in accordance with Section 18;
- (d) Make recommendations concerning the nomination of personnel, concerning requests to the Agency for fellowships, research contracts or Agency project assistance for the Co-operative Programme, concerning the carrying out of computation programmes, and concerning the organization of joint technical discussions;

- (e) Make recommendations to the parties concerning the development of the Co-operative Programme and consider any other matter relating to it.

*Section 7.* The Joint Committee shall determine its own rules of procedure, which shall provide that it shall :

- (a) Meet at least twice a year;  
(b) Make its decisions pursuant to Section 6 (a) by unanimity.

*Section 8.* The expenses incurred by each member of the Joint Committee and his advisers shall be borne by the party appointing him. The expenses of the Committee in connection with any meeting shall be borne by the party that is host to the meeting. Other administrative expenses of the Committee shall be borne by the Agency.

#### *Article IV*

##### EXCHANGE AND SUPPLY OF PERSONNEL

*Section 9.* Each of the Governments shall each year inform the Joint Committee of the number and types of positions it is prepared to make available at its installations for scientists and technicians nominated by the Agency or either of the other Governments for work on the Co-operative Programme, and of the periods for which it is prepared to make such positions available.

*Section 10.* The Agency and each of the Governments shall each year nominate scientists and technicians for work on the Co-operative Programme in the installations of one of the Governments.

*Section 11.* Subject to the agreement of the Governments concerned, the Joint Committee shall approve the placement, for the positions made available and from among the nominations received, of scientists and technicians to be exchanged among the installations or supplied from other countries for the Co-operative Programme and recommend which of them should be considered for Agency fellowships.

*Section 12.* The financial provisions concerning personnel exchanged or supplied pursuant to this Agreement shall, if no Agency fellowships are granted to them and unless otherwise agreed between the Governments concerned, be those stated in Part 1 of Annex C.<sup>1</sup> Payments made by the Agency or by one of the Governments to such persons shall be considered as scholarships and shall not be taxed by any of the Governments, other than that of the country from which the payment originates. Each of the Governments agrees to facilitate, as far as possible, the making of payments from abroad in foreign currencies, on the same basis as in the case of Agency fellowship payments.

<sup>1</sup> See p. 264 of this volume.

*Section 13.* Any person exchanged or supplied pursuant to this Agreement shall be subject to the authority in charge of the installation at which he is working. Persons nominated or paid as fellows by the Agency shall not for that reason be considered to be members of the staff of the Agency.

#### *Article V*

##### EXCHANGE OF MATERIALS, EQUIPMENT AND SERVICES

*Section 14.* Materials and equipment may be exchanged among the Governments within the frame work of the Co-operative Programme, upon approval of the Joint Committee, on the basis, as far as possible, of the standard agreement in Part 2 of Annex C.

*Section 15.* All exchanges of nuclear materials between the Governments within the framework of the Co-operative Programme shall be on a temporary lease basis. Such materials shall be considered to be PN materials within the meaning of paragraph 21 of Agency document INFCIRC/26. Except as may be provided in or limited as a consequence of other agreements with the Agency, any attachment of Agency safeguards as a consequence of such exchange shall be considered automatically suspended if, as is presently foreseen, the amounts of such materials received or sent out at any time by the Government concerned do not exceed the limits stated in paragraph 39(b) of Agency document INFCIRC/26.

*Section 16.* The Joint Committee may make recommendations concerning the carrying out of joint computation programmes using the computers associated with the several installations, or for the carrying out by computers belonging to one party of calculations required by another party for the purpose of the Co-operative Programme.

#### *Article VI*

##### JOINT TECHNICAL DISCUSSIONS

*Section 17.* The parties may arrange, upon recommendation of the Joint Committee, regular and special technical discussions concerning aspects of the Co-operative Programme between the scientific personnel of the Agency, of the national nuclear research institutions of the Governments, and of other similar institutions.

#### *Article VII*

##### OTHER AGREEMENTS

*Section 18.* The parties may, upon approval of the Joint Committee, enter into other bilateral or multilateral agreements with each other to further

the implementation of the Co-operative Programme. In the case of the agreement between the Agency and Norway relating to a joint programme of research in reactor physics with the zero-power reactor NORA and the ancillary agreements thereto approval shall be regarded as having been given.

*Section 19.* The parties to this Agreement may enter into agreements with each other or with other countries or organizations concerning the use of the installations, provided that such agreements do not interfere with the implementation of the Co-operative Programme.

#### *Article VIII*

##### UNDERTAKING AGAINST MILITARY USE

*Section 20.* No part of the Co-operative Programme or any result thereof shall be used in such a way as to further any military purpose, and each of the Governments agrees that no material, equipment or service received by it in connection with the Programme shall be used to further any such purpose.

#### *Article IX*

##### HEALTH AND SAFETY MEASURES

*Section 21.* The health and safety measures specified in Annex D<sup>1</sup> will be applied to operations in implementation of the Co-operative Programme.

#### *Article X*

##### LIABILITY

*Section 22.* Each operation in implementation of the Co-operative Programme shall be carried out under the responsibility of the Government which makes available the installation concerned, and shall be subject to any relevant laws and treaties of that Government. In connection with such operation or with that portion of the Co-operative Programme to which it relates, neither the Agency nor either of the other Governments nor any person acting on behalf of the Agency or such Governments shall bear any liability.

#### *Article XI*

##### INFORMATION AND RIGHTS TO INVENTIONS AND DISCOVERIES

*Section 23.* Pursuant to Article VIII. B of the Agency's Statute,<sup>2</sup> the Governments shall make available to the Agency without charge all scientific information developed as a result of any assistance extended by the Agency in accordance with this Agreement.

<sup>1</sup> See p. 268 of this volume.

<sup>2</sup> See footnote 5, p. 222 of this volume.

*Section 24.* All results of the Co-operative Programme, including any inventions or discoveries arising out of it, shall be made available for the development and practical application of atomic energy for peaceful uses throughout the world. To this end the parties shall co-operate by prompt and extensive publication and by other appropriate means to prevent restrictions on the free use of such results. Furthermore, any of the parties, and persons under their control, may obtain any patent or similar protection for such results attributable to the party or persons, provided that the owner of such patent undertakes to make the invention freely usable throughout the world without charge or any other restriction. The parties shall assist each other in obtaining any patent or similar protection that any of them may wish to obtain under the above conditions and shall co-operate to avoid any conflicting applications for such patents.

### *Article XII*

#### SETTLEMENT OF DISPUTES

*Section 25.* Any dispute arising out of the interpretation or application of this Agreement, or of any agreement implementing it, that is not settled by negotiation or as may otherwise be agreed or provided shall on the request of any party to the dispute be submitted to an arbitral tribunal.

Each party to the agreement in question, except any party which all parties to such agreement decide is not concerned in the dispute, shall designate one arbitrator. If within thirty days of the request for arbitration any party has not designated an arbitrator, the President of the International Court of Justice (hereinafter the "Court") may appoint the necessary number of arbitrators at the request of any party to the dispute. The arbitrators so designated or appointed shall by unanimous decision elect an additional arbitrator, who shall be the Chairman, as well as a sufficient number of other arbitrators so that the number of elected arbitrators is one less than the number of parties to the dispute. If within thirty days after the necessary number of arbitrators have been designated or appointed, the Chairman or any of the other additional arbitrators have not been elected, the President of the Court may appoint the necessary number of additional arbitrators at the request of any designated or appointed arbitrator.

A majority of the members of the arbitral tribunal shall constitute a quorum, and decisions shall be made by majority vote. The arbitral procedure shall be established by the tribunal, whose decisions, including all rulings concerning its constitution, procedure, jurisdiction and the division of the expenses of arbitration between the parties, shall be binding on all parties to the dispute. The remuneration of the arbitrators shall be determined on the same basis as that of *ad hoc* judges of the Court under Article 32 (4) of its Statute.



*Article XIII*

## ENTRY INTO FORCE, DURATION AND ADDITIONAL PARTIES

*Section 26.* This Agreement shall enter into force upon signature by or for the Director General of the Agency and by the authorized representatives of the Governments.

*Section 27.* This Agreement shall continue in force for three years, unless terminated by any party upon one year's notice to the others, or unless extended by mutual agreement.

*Section 28.* Any other Member of the Agency may become a party to this Agreement upon consent of all parties hereto. This Agreement shall enter into force for such new party upon signature by all the parties of a protocol to this Agreement specifying the contributions of such new party, the necessary reconstitution of the Joint Committee, and any interim measures concerning the then current annual research plan.

DONE in quadruplicate in the English language.

For the International Atomic Energy Agency :

(*Signed*) Sigvard EKLUND

Vienna, 10 April 1964

For the Government of the Kingdom of Norway :

(*Signed*) Torfinn OFTEDAL

Vienna, 10 April 1964

For the Government of the People's Republic of Poland :

(*Signed*) BILLIG

Vienna, 28 February 1964

For the Government of the Socialist Federal Republic of Yugoslavia :

(*Signed*) Slobodan NAKIČENVIĆ

Vienna, 28 February 1964

## ANNEX A

TECHNICAL OBJECTIVES OF THE CO-OPERATIVE PROGRAMME  
IN REACTOR PHYSICS

The main objectives of the Co-operative Programme will be both theoretical and experimental investigations of basic problems of reactor physics, to be selected taking into account the plans of the national nuclear research institutions, as well as the recommendations resulting from various international meetings, such as, for example, the Agency's panels on heavy water lattices and on light water lattices. Such main objectives are outlined as follows :

- (a) To co-operate in the development of experimental techniques and to test and check their applicability, validity, and accuracy in various fields of reactor physics such as, for example, measurements of spectra, resonance integrals, microscopic parameters, void coefficients; and
- (b) To develop theoretical models and methods used in lattice calculations, in interpretation of experimental data, and to test the extent of their validity. Examples of such co-operative studies are : development of codes for digital computers, especially for spectrum and criticality evaluations; theoretical studies of resonance absorption, as compared to experimental results; development of methods for the interpretation and programming of experiments; development of simplified models for experimental purposes.

## ANNEX B

## CONTRIBUTIONS BY THE GOVERNMENTS

1. In accordance with Section 2 (a), NORWAY shall make available at the Institutt for Atomenergi, Kjeller, for use in the Co-operative Programme :

- (a) The zero-power lattice-test reactor NORA, with suitable fuel suspension facilities and reactor tanks to carry out work throughout the moderator range from pure  $D_2O$  to pure  $H_2O$ ;
- (b) The miniature exponential facility JEEPNIK, which is driven by the JEEP reactor, together with fuel charges;
- (c) An Electronics Associates PACE analogue computer;
- (d) The Ferranti Mercury digital computer FREDERIC; and
- (e) Associated measuring and counting instruments, including a 256-channel pulse height analyser, and automatic foil counting and wire scanning equipment.

2. In accordance with Section 2 (a), POLAND shall make available at the Institute of Nuclear Research, Warsaw, for use in the Co-operative Programme :

- (a) The graphite and light-water moderated critical assembly ANNA using uranium enriched to 20% in U<sup>235</sup>;
  - (b) The light-water moderated critical assembly MARYLA using uranium enriched to 10% in U<sup>235</sup>;
  - (c) A 200 keV pulsed neutron source;
  - (d) A 0.02-200 c/s neutron modulator (under construction);
  - (e) The horizontal channel of the WWR-S type reactor EWA (for temporary use), with a fast-chopper;
  - (f) A slow neutron chopper, with time of flight instruments;
  - (g) A space-30 analogue computer;
- and will also, if possible, arrange for the use in the programme of the following digital computers of the Polish Academy Computing Centre, Warsaw :

- (h) URAL II; and
- (i) ODRA 1002.

3. In accordance with Section 2 (a), YUGOSLAVIA shall make available at the Boris Kidrič Institute, Vinča, for use in the Co-operative Programme :

- (a) The zero-power heavy-water moderated RB reactor with two cores, of respectively natural uranium and uranium enriched to 2% in U<sup>235</sup>;
- (b) The thermal column of the RA reactor;
- (c) An Electronics Associates PACE analogue computer; and
- (d) The digital computer ZUSE Z-23.

## A N N E X C

### PROVISIONS CONCERNING EXCHANGES

#### PART I

##### FINANCIAL PROVISIONS CONCERNING EXCHANGE OR SUPPLY OF PERSONNEL

Except as otherwise agreed, the following financial provisions shall apply to the exchange or supply of personnel pursuant to Article IV :

- (a) Their salaries, allowances and other emoluments shall be paid by the organization sending or receiving them, as agreed in each particular case.
- (b) Their travel and transportation expenses shall be paid by the organization sending them.
- (c) They may, if they so elect, maintain their participation in any disability, unemployment and retirement schemes in the sending organization or country. Should they so elect, the sending organization shall continue to make its appropriate payments to such schemes in respect of them.

- (d) Except as provided under (e), the receiving organization shall at its own cost arrange for their participation in any insurance or retirement scheme required by the regulations of the receiving organization or by the laws to which it is subject.
- (e) If they do not maintain other equivalent health and accident insurance, the receiving organization shall arrange for their coverage by any such insurance of the type required in the case of local personnel, the costs of which shall be borne by the receiving organization only to the extent it bears such costs in the case of local personnel.
- (f) Except as provided above, all costs connected with their work shall be borne by the receiving organization.
- (g) The Governments or the sending and receiving organizations may arrange, with respect to personnel exchanged between them, for the reciprocal assumption by one organization of agreed parts of any payments or costs hereby attributable to the other.

## PART 2

## STANDARD AGREEMENT FOR THE EXCHANGE OF MATERIALS AND EQUIPMENT

Pursuant to the approval of the Joint Committee for the Co-operative Programme of the International Atomic Energy Agency and the Governments of Norway, Poland and Yugoslavia for research in reactor physics, the ..... (hereinafter the "sending organization") hereby agrees to lease to the ..... (hereinafter the "receiving organization") the following ..... (hereinafter the "object"), on the following conditions :

- (a) The period of the lease shall be ....., to be calculated from the date of dispatch of the object by the sending organization (which shall be no later than ..... ) to the date of its receipt by such organization upon the return of the object. The title to the object shall remain vested in the sending organization.
- (b) The object shall only be used for the Co-operative Programme, and in the following manner :  
.....
- (c) Except as provided under (f), the sending organization shall make all arrangements for the transport of the object to the receiving organization, and that organization shall make all arrangements for its return transport. Such arrangements shall include the obtaining of all necessary insurance.
- (d) Should the object be damaged after its receipt by the receiving organization and before its receipt by the sending organization upon return, the receiving organization shall pay the sending organization for its repair or restoration. Should it not be possible to repair or restore the object completely or should it be lost during such period, the sending organization may require the receiving organization to pay .....; after such payment has been made title to the object shall pass to the receiving organization.
- (e) In accordance with Section 22 of the Agreement concerning the Co-operative Programme, the receiving organization shall be liable for any injury or damage due to its use of the object, and the receiving organization shall hold the sending organization, its Government, and any persons acting on their behalf harmless against any such liability.

- (f) Each organization shall make all necessary arrangements with its own Government concerning customs and licences for the import, export, shipment and use of the object, and shall co-operate with the other organization concerning any such arrangements the other organization has to make with its own Government or with that of other countries.
- (g) In view of the common goals of the Co-operative Programme, the receiving organization shall not be required to pay any lease charge for the object. The costs incurred by either organization in accordance with (c) shall be paid by the ..... organization, which is the organization primarily benefiting from this exchange.
- (h) This agreement shall be interpreted in accordance with the law of the country of the sending organization.

## A N N E X D

### HEALTH AND SAFETY MEASURES

1 The Agency, in accordance with Article XII.A.2 of its Statute and with its Health and Safety Measures approved by the Board of Governors on 31 March 1960 as set forth in Agency document INFCIRC/18 (hereinafter called the "health and safety document"), has satisfied itself that the following health and safety regulations, insofar as they are not the Agency's own safety standards, are consistent therewith and equally effective:

- (a) In Norway, the NORA Operating Regulations of the Institutt for Atomenergi;
- (b) In Poland the Agency's Basic Safety Standards for Radiation Protection,\* as well as the Regulations for the Safe Transport of Radioactive Materials\*\* and the Manual on Safe Handling of Radioisotopes\*\*\*
- (c) In Yugoslavia, its Law on Protection from Ionizing Radiation and the regulations adopted pursuant to that Law.

2. The appropriate health and safety regulations specified above shall apply to the Co-operative Programme. The Programme shall also be operated as far as legally possible in conformity with the Agency's Basic Safety Standards,\* its Regulations for the Safe Transport of Radioactive Materials, and the relevant parts of its codes of practice.

3. Within two months after the entry into force of this Agreement, each of the Governments shall arrange, with respect to each of its installations, for the submission to the Agency of the information specified in paragraph 29 of the health and safety document, with reference to operations in implementation of the Co-operative Programme, to the extent such information is relevant and is not yet available to the Agency. The Agency may require further safety measures in accordance with paragraph 30 of the health and safety document. If, in particular as a result of developments in the implementation of the Co-operative Programme, any of the Governments desires to make substantial modifi-

\* Agency's Safety Series No. 9 (STI/PUB/26).

\*\* Agency's Safety Series No. 6 (STI/PUB/40).

\*\*\* Agency's Safety Series No. 1 (STI/PUB/1).

cations or additions to the operations with reference to which information was submitted, or to the safety procedures in respect of such operations, it shall arrange for the submission to the Agency of the relevant information as specified in paragraph 29 of the health and safety document in sufficient time to enable the Agency to fulfil its duties under paragraph 30 of such document before modifications or additions are to be carried out.

4. With reference to the implementation of the Co-operative Programme, each of the Governments shall arrange for the submission with respect to each of its installations of the reports specified in paragraph 25 (a) of the health and safety document, the first report to be submitted not later than twelve months after the coming into force of this Agreement. It shall also arrange, if necessary, for submission of the reports specified in paragraphs 26 and 27 of the health and safety document.

5. Special inspections may be carried out in the circumstances specified in sub-paragraph 32 (a) of the health and safety document at the request of the Government concerned. The provisions concerning Agency inspectors shall be those set out in the Annex to Agency document GC(V)/INF/39. Each of the Governments shall apply the relevant provisions of the Agreement on the Privileges and Immunities of the Agency<sup>1</sup> to Agency inspectors and to any property of the Agency used by them in performing their functions.

6. The safety standards and measures specified in this Annex may be varied with respect to each of the Governments by separate agreements between the Agency and such Government, and may be changed in accordance with paragraphs 38 and 39 of the health and safety document.

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<sup>1</sup> United Nations, *Treaty Series*, Vol. 374, p. 147; Vol. 396, p. 352; Vol. 399, p. 296; Vol. 412, p. 353; Vol. 456, p. 502, and Vol. 463, p. 362.