### AIR POUCH

## FOREIGN SERVICE DESPATCH

February 4, 1955

FROM: UNITED STATES MISSION TO THE UNITED NATIONS USUN - New York

TO : THE DEPARTMENT OF STATE, WASHINGTON

SUBJ: (IO - UNP - S/AE - IC) --- INTERNATIONAL CONFERENCE ON THE PEACEFUL USES OF ATOMIC ENERGY

Enclosed is a note from the SYG-UN, dated February 1, 1955 inviting the US to participate in the international Conference on the Peaceful Uses of Atomic Energy to convene in Geneva on August 8, 1955, together with the following attachments:

GA Resolution 810 (IX),

Topical Agenda - Annex I,

Rules of Precedure - Annex II,

Notification from the USSR - Annex III.

The US is requested to inform the SYG as soon as possible whether it will participate and, if so, of the nature and probable number of papers it may expect to submit. Titles and abstracts of all papers should be submitted, in original and three copies, to the SYG by May 15 and the full texts of papers, also in original and three copies, not later than July 1. Credentials for representatives and the names of advisers should be submitted not later than 14 days before the opening of the Conference.

#### Enclosures:

- 1. Note from the SYG-UN.
- 2. Four attachments listed above.

## UNITED NATIONS \* NATIONS UNIES NEW YORK

1 February 1955

Sir,

I have the honour, in pursuance of Resolution 810 (IX) of 4 December 1954, to invite your Government to participate in the international Conference on the Peaceful Uses of Atomic Energy. The Resolution, a copy of which is enclosed, provides in its Part B that "all States members of the United Nations or of the specialized agencies" are to be invited to participate in the Conference.

The Advisory Committee established by the General Assembly Resolution has now concluded its first session at the Headquarters of the United Nations, and with its advice the following actions affecting the organization and procedure of the Conference have been taken:

The Conference is to convene in Geneva on 8 August 1955, and will continue in session for twelve working days, that is through 20 August 1955.

The Topical Agenda which constitutes the general programme of the Conference has been prepared, and is enclosed as Annex I.

The Rules of Procedure for the Conference have been formulated, and are enclosed as Annex II.

The Agenda and Rules of the Conference have been prepared in pursuance of the above-mentioned Resolution of the General Assembly.

The Secretary-General has informed the Advisory Committee of his decision, in accordance with his understanding of the views of the Committee, to name Dr. Homi Bhabha of India as President of the Conference.

Six Vice-Presidents will be appointed by the Secretary-General of the United Nations following designation of individual nominees by the following States: Brazil, Canada, France, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. Their names will be announced as soon as possible.

The Chairmen and Rapporteurs of Sections will be appointed and their names announced in due course.

Professor Walter G. Whitman of the Massachusetts Institute of Technology has been engaged by the Secretary-General as an officer of the United Nations Secretariat and assigned to serve as Conference Secretary-General, A Deputy to him will be announced in due course.

The Secretary-General has appointed a United Nations internal working party to assist him on matters relating to the Conference. The members of this working party are: Mr. Ralph J. Bunche, Mr. Gunnar Randers and Mr. Ilya S. Tchernychev.

May I draw your attention particularly to certain provisions in the Rules of Procedure for the Conference to the effect that:

Each participating State "may be represented at the Conference by no more than five representatives, ... The representatives may be accompanied by such number of advisers as may be required, in the general interest of the Conference, to ensure adequate presentation and discussion of technical papers". (Rule 2)

The lists of representatives and proposed advisers of each participating State are to be submitted not later than fourteen days before the opening of the Conference. (Rule 4)

In view of the limited time evailable for preparation of the Conference, the titles and the requested 500-word abstracts of all papers intended to be presented at the Conference are to be submitted to the Secretary-General of the United Nations, if possible, not later than 15 May, while the full texts of the papers themselves are to be submitted to him not later than 1 July. (Rule B, Annex)

The travel and other expenses of participants in the Conference are not to be an obligation of the United Nations. (Rule 24)

With regard to the representation of each participating State, it should be noted that in paragraph 3 of Part B of the General Assembly resolution and in Rule 2 of the Rules of Procedure for the Conference, reference is made to the inclusion among the representatives, where possible, of "individual experts competent in the atomic energy field".

Having in mind the urgency of the time-factor, I would like to emphasize the necessity that the Secretary-General be informed at your Government's earliest convenience as to the nature and probable number of papers relating to the Agenda which it may expect to submit.

In this latter connexion, I may refer to a notification from the Government of the Union of Soviet Socialist Republics which is enclosed ... as Annex III.

I would appreciate notification, at an early date, of your Government's intention with regard to participation in the Conference in response to this invitation.

Accept, Sir, the assurances of my highest consideration.

Dag Hammarskjold Secretary-General

The Secretary of State, Department of State, Washington 25, D. C.

#### UNITED NATIONS

# GENERAL ASSEMBLY RESOLUTION 810 (IX)

# INTERNATIONAL CO-OPERATION IN DEVELOPING THE PEACEFUL USES OF ATOMIC ENERGY

# Adopted by the General Assembly at its 503rd plenary meeting on 4 December 1954

The General Assembly.

Believing that the benefits arising from the monentous discovery of atomic energy should be placed at the service of mankind,

Desiring to promote energetically the use of atomic energy to the end that it will serve only the peaceful pursuits of mankind and ameliorate their living conditions,

Recognizing the importance and the urgency of international cooperation in developing and expanding the peaceful uses of atomic energy to assist in lifting the burdens of hunger, poverty and disease,

Believing also that all nations should co-operate in promoting the dissemination of knowledge in the realm of nuclear technology for peaceful ends,

#### A

### CONCERNING AN INTERNATIONAL ATOMIC ENERGY AGENCY

Recalling the initiative of the President of the United States of America, embodied in his address of 8 December 1953.

Noting that negotiations are in progress, and the intention that they should continue, for the establishment as quickly as possible of an International Atomic Energy Agency to facilitate the use by the entire world of atomic energy for peaceful purposes, and to encourage international cooperation in the further development and practical application of atomic energy for the benefit of mankind,

1. Expresses the hope that the International Atomic Energy Agency will be established without delay;

- 2. Suggests that, once the Agency is established, it negotiate an appropriate form of agreement with the United Nations;
- 3. Transmits to the States participating in the creation of the Agency, for their careful consideration, the record of the discussion of this item at the present session of the General Assembly;
- 4. Suggests that Members of the United Nations be informed as progress is achieved in the establishment of the Agency and that the views of Members which have manifested their interest be fully considered;

B

# CONCERNING THE INTERNATIONAL CONFERENCE ON THE PEASEFUL USES OF ATOMIC ENERGY

- 1. Declares the interest and concern of the General Assembly in helping in every feasible way to promote the peaceful applications of atomic energy;
- 2. Decides that an international technical conference of Governments should be held, under the auspices of the United Nations, to explore means of developing the peaceful uses of atomic energy through international cooperation and, in particular, to study the development of atomic power and to consider other technical areas such as biology, medicine, radiation protection; and fundamental science in which international co-operation might most effectively be accomplished;
- 3. <u>Invites</u> all States Members of the United Nations or of the specialized agencies to participate in the conference and to include among their representatives individual experts competent in the atomic energy field;
- 4. Suggests that the international conference should be held no later than August 1955 at a place to be determined by the Secretary-General and by the Advisory Committee provided for in paragraph 5 below;
- 5. Requests the Secretary-General, acting upon the advise of a small committee composed of representatives of Brazil, Canada, France, India, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, to issue invitations to this conference, to prepare and circulate to all invitees a detailed agenda, and to provide the necessary staff and services;
- 6. Suggests to the Secretary-General and the above-mentioned Advisory Committee that, in making plans for the internatiknal conference, they consult with competent specialized agencies, in particular the Food and Agriculture Organization, the World Health Organization, and the United Nations Educational, Scientific and Cultural Organization;

- 7. Invites the interested specialized agencies to designate persons to represent them at the conference;
- 8. Requests that the Secretary-General circulate for information a report on the conference to all Members of the United Nations, and to other Governments and specialized agencies participating in the conference.

# TOPICAL AGENDA FOR THE INTERNATIONAL CONFERENCE

# ON THE PEACEFUL USES OF ATOMIC ENERGY

#### PLENARY SESSIONS

Time Provisionally Allotted

# Session A: The Need for a New Power Source I

1/2 Hr.

A.l

Keynote address - President

1-1/2 Hr.

A.2 Survey Papers on Estimated World Power Requirements in 1975 and 2000

In order to set the stage for discussions of the effect of nuclear energy on the world power problem, it is necessary to project the world's power requirements for some 50 years. This is a difficult extrapolation to make because of the power demand now going on. Thus as a prelude to a discussion of the needs of individual countries for power and heat, it is natural to include such a survey.

1 Hr.

A.3

Survey Papers on the Alternate Power Sources

Nuclear energy can only be viewed in the proper light if one realizes that there are other sources of power for the future. (One paper on conventional sources and one on unconventional sources of power would be presented.)

# Session B: Need for a New Power Source II

3 Hr.

B.1 Individual Countries' Needs and Possibilities for Power and Heat

These papers are aimed at pointing up the spectrum of problems and solutions for power and heat needs in various countries during the next 50 years. An attempt could be made to give all of the estimates of cost and demand on the same basis so that by juxtaposing them it should be possible to determine where the need is greatest. Each nation is invited to furnish all available data and the Conference Organization would make a summary of the papers submitted. Typical papers dealing with

B.1 (Cont) some characteristic regions or specific conditions of industrial development will also be selected for presentation. Special emphasis shall also be put on the study of the economic significance of nuclear power for pre-industrialized countries, for countries in a phase of transition from an agricultural economy to an industrialized one, and for countries already industrialized.

# Session C: The Role of Nuclear Energy

1 Hr. C.1 Survey Papers on the Natural Occurrence of U and Th

Each nation is invited to furnish all available data and the Conference Organization would make a summary of the papers submitted. A few of these papers would also be selected for presentation.

1 Hr. C.2 The Maximum Plausible Role Which Nuclear Energy Can Play as an Energy Source During the Next 25 to 50 Years

These papers shall make references to methods of utilization of uranium and thorium. Reference to the possible use of atomic energy for propulsion could also be made here.

1 Hr. C.3 Economics of Nuclear Power

These papers could be concerned with the economic problems involved in estimating the operating costs and fuel costs for a nuclear power system.

## Session D: The Building of a Nuclear Energy Enterprise

1 Hr. D.1 Capital Investment Required for Nuclear Energy

These papers might be primarily concerned with the capital costs of various components of a nuclear power enterprise; for example, the reactor portion of a power system, the straight steam portion of the power system, the chemical plant and the enrichment plant.

2 Hr. D.2 Experience with Existing Nuclear Energy Power Plants
with Reference to the Ways of Development of Atomic Power

# Session E: Health and Safety Aspects of Nuclear Energy

1 Hr. E.1 Biological Effects of Radiation

This could include a discussion of the human exposures which have occurred. It could emphasize the experimental results which are available on animals.

1/2 Hr. E.2 Ecological Considerations Related to Nuclear Energy

These papers could be a discussion of the ecological problems which result from selective destruction of a given species in the food web, either because of hypersensitivity to radiation or the ability to concentrate certain radio-nuclides to levels far above those of the environment.

1-1/2 Hr. E.3 Reactor Safety and Location of Power Reactors

A thorough consideration could be given to the problems which result from locating power reactors near large centers of population. The problems to be discussed could be the probable accidents which could occur from sudden additions of reactivity or failure of mechanical safety devices. The containment problem should be emphasized. Special consideration should be given to any widespread dispersal of fission products and also to the effects of radiations on persons close to the reactors.

# Session F: Production and Use of Isotopes

1 Hr. F.1 The Importance of Isotopes in Technology and Industry

There would be survey papers which might outline the uses of isotopes in science and industry. They should summarize some of the important results that have been achieved by the use of isotopes.

1 Hr. F.2 The Importance of Isotopes in Medicine, Biology and Agriculture

1 Hr. F.3 Waste Disposal Problems

Consideration could be given to the long-term storage and disposal problems, and to the possibility of contaminating water supplies. Air-borne particulates, oceanological and geological problems should also be considered.

Session G: Problems Relating to Large Quantities of Radioactive

As we go further into the nuclear energy business more people have come to grips with the problems of handling large quantities of concentrated radioactivity. These papers could summarize the present state of this art with regard to the design of facilities and the techniques of the chemistry.

1 Hr. G.1 The Problems of Producing and Distributing Large Quantities of Radioisotopes

- 1 Hr. G.2 The Current Status of Techniques and Methods for Handling Massive Quantities of Highly Active Radioisotopes
- 1 Hr. G.3 Administrative and Legal Problems of Widespread Use of High-Level Radiation Sources

Examples which could be covered are:

- (1) Training of industrial personnel radioisotope use and health aspects.
- (2) Industrial health and safety: radiological healthsafety codes (need for nation-wide, uniform codes); development of boiler codes involving special metals such as zirconium, and for double-clad vessels.
- (3) Insurance, workman's compensation, accidental contamination of large areas (10,000 homes); government versus private insurance company coverages.
- (4) Government-industry relationships.
- (5) Spreading of radioactive contamination.

#### REACTOR SESSIONS

# Session P.1: Research Reactors

1 Hr. P.1.1 Survey Papers on Types and the Needs They Fill

These papers could compare the technical aspects with regard to utility of the various types of research reactors. Cost information on the reactors should be made available in order to make comparisons most pertinent.

2 Hr. P.1.2 General Principles and Practical Experience with Research Reactors

These papers could discuss the operating principles which should be used for research reactors as well as the applications for such reactors to radioisotope production, engineering-scale irradiation experiments, and basic research experiments. Opportunity will be given for discussion.

# 6 Hr. Sessions P.2, P.3: Research Reactors - Descriptions

The complete details of some research reactors could be discussed. Each paper could point out the operating data and special virtues and shortcomings of the reactor.

# 3 Hr. Session P.4: Power Reactors (Systems for Development)

# P.4.1 Survey Papers on Fuel Cycles and Reactor Types

These survey papers could emphasize the complementary character of the fast and thermal systems together with the ephemeral character of the non-regenerative systems. It would be appropriate to emphasize the many approaches to nuclear power. Emphasis should be placed on the prospects of development of the systems under consideration rather than on the prototype reactors which will be discussed in detail later on. In all of the papers which follow in Sessions P.5 and P.6, emphasis could be placed on the technical principles which have motivated the particular development and design decisions. Comparison shall be made between the use of natural uranium, enriched uranium and thorium, and pure fissile materials.

# Sessions P.5, P.6:

# 1-1/2 Hr. P.5.1 Fast Neutron Reactors

A summary could be given of the experiments on breeding ratio, flux distribution and neutron spectrum in fast neutron reactors. The discussion could include remarks on the control problems of fast reactors in general. Finally, the effect of chemical reprocessing costs on the ultimate fast reactor design could be discussed.

# 4-1/2 Hr. P.5.2 Thermal Neutron Reactors

This includes reactors designed to use natural uranium, enriched uranium, U-233, and recycled fuels, whether of the homogeneous or heterogeneous lattice type.

Papers are invited to cover at least the following principal types:

- (a) Liquid Metal Fueled Reactor
- (b) Aqueous Homogeneous Reactor
- (c) Boiling Water Reactor

(P.5.2 Cont.)

- (d) Fluidized Solid Fueled Reactor
- (e) Sodium Cooled Reactor
- (f) Pressurized Water Reactor
- (g) Beryllium Moderated Reactor

# 6 Hr. Sessions P.7, P.8: Power Reactors (Prototypes)

Descriptions of prototype reactors including construction costs, problems of leaks and pumps, corrosion and control problems, with particular attention given to the manner in which the results of prototype experiments are to be interpreted in evaluating the final design of full-scale systems.

# Sessions R.1, R.2: Technology Sessions

- 1 Hr. R.1.1 Methods of Prospecting for Uranium and Thorium
- 2 Hr. R.1.2 Chemical Treatment of Low-Grade Ores and Ore Concentrates of Uranium and Thorium
- 2 Hr. R.1.3 Production of U Metal and Th Metal from High-Grade Ores and Concentrates
- 1 Hr. R.1.4 Analytical Methods Applicable to Raw Material Production
- 3 Hr. Session R.3: Production Technology of Special Materials

These will include D<sub>2</sub>O, zirconium (separation from hafnium and preparation of the metal), beryllium and beryllium oxide and graphite.

3 Hr. Session R.4: Chemical Aspects of Nuclear Reactors

These survey papers could outline the various problems, which are chemical in nature, associated with reactors—such as Water-Moderated Graphite, Homogeneous, Sodium-Cooled, and beryllium and beryllium oxide reactors. In particular, some attention could be paid to the chemical aspects of corrosion and mass transfer.

# Session R.5:

2 Hr. R.5.1 Chemical Processing of Irradiated Uranium and Thorium Fuel Elements

This will include solvent-extraction processes, hightemperature processing and volatility processes. 1 Hr. R.5.2 Storage and Separation of Fission Products

The problems which are involved in separating and permanently storing fission products could be discussed. The various schemes for permanent disposal could be evaluated together with some practical experience in handling concentrated fission products. Attention could be given to the fixing of fission products permanently in agglomerate or ceramic masses.

	/	
3 Hr.	Session R.6:	
	R.6.1	Metallurgy of Th, U and Their Alloys
	R.6.2	Fabrication of Fuel Elements (including the canning problem)
	Session R.7:	Liquid Metals Technology
1 Hr.	R.7.1	The Problems of Handling Liquid Metals
1 Hr.	R.7.2	Liquid Metal Heat Transfer
1 Hr.	R.7.3	Corrosion Problems in Liquid Metal Systems
	Session R.8:	Problems of Waste Treatment and Disposal
1 Hr.	R.8.1	Operating Problems Involved in Disposal in the Ground
1 Hr.	R.8.2	Disposal in the Sea

#### REACTOR PHYSICS SESSIONS

6 Hr. Sessions Q.1, Q.2: Equipment and Techniques Used in Measuring Cross-Sections
Important to Reactor Design...

including neutron velocity selectors, neutron crystal spectrometers and in-pile neutron cross-section measurements.

3 Hr. Session Q.3: Results of Cross-Section Measurements Important to Reactor Design...

Airborne Problems

1 Hr.

R.8.3

including cross-section of fissile materials, moderators, coolants, structural materials and fission products. Also of  $\eta$  (number of neutrons released per neutron absorbed) and  $\alpha$  the ratio of the capture cross-section ( $\sigma_c$ ) to the fission cross-section ( $\sigma_c$ ).

Selected Topics in Neutron Physics Connected with Session Q.4: 3 Hr. Reactors ...

> (such as neutron decay, certain  $(n,\gamma)$  or  $(\gamma,n)$  reactions, fission process, gamma ray spectrum in fission).

Measurement of Integral Quantities Important to Reactor 3 Hr. Session Q.5: Design....

> t (slowing down length), Atr(transport mean free path) resonance integrals.) /

Zero Energy, Exponential and Critical (or Model) Session Q.6: Experiments

Reactor Calculation Techniques and Comparison with 6 Hr. Sessions Q.7, Q.8: Experiments

For example:

1. Critical mass

2. Flux and power distribution

3. Temperature effects 4. Control problems

5. Long-term reactivity changes

6. Lattice calculations

### REACTOR CHEMISTRY AND METALLURGY SESSIONS

	Session S.1:	The Fission Process as Connected with Reactors
1 Hr.	s.1.1	Survey Papers
2 Hr.	S.1.2	Details of the Fission Process
		(such as information on the yield of various fission products as follows: fine structure, energy dependence, variations between isotopes)

Session S.2: Chemistry of the Fission Products 3 Hr.

Including: solution chemistry of gross fission products,

volatility properties,

chemistry of individual fission products (such

as elements 43 and 61)

A	Session S.3:	Problems of Doing Chemistry on Highly Radioactive Materials
1-1/2 Hrs.	s.3.1	Design of Facilities
1-1/2 Hrs.	8.3.2	Techniques and Results
	Session S.4:	Heavy Element Chemistry
1 Hrs.	s.4.1	Surveys of Chemistry of Transuranics
2 Hrs.	s.4.2	Chemistry of Specific Heavy Elements
		(Such as Pu, Np)
Sessio	ons S.5, S.6,	

9 Hrs.

and S.7:

Including: effects of radiation on materials of use in reactors as fuels, moderators, coolants, or structural materials; effects of radiation on solutions; effects of radiation on the properties of metals, alloys and semi-conductors.

#### BIOLOGICAL AND MEDICAL SESSIONS

Radiation Chemistry and Radiation Damage

# Sessions M.1, M.2: The Application of Nuclear Energy in the Solution of Special Problems in Biomedical Research

6 Hrs.

The use of nuclear energy in medicine, for example:

- 1. Diagnostic procedures at least one general summary talk on this subject.
- 2. Therapeutic procedures: (a) neoplastic diseases.

  Talks under this heading might include deep radiation therapy, radioisotopes as therapeutic agents, and neutron capture reactions in therapy of neoplasms; (b) the treatment of non-neoplastic disease with radioisotope techniques.
- The use of radioactive tracer techniques in the study and elucidation of metabolic disease processes.

# Sessions M.3, M.4: Utilization of Nuclear Energy in the Solution of Special Public Health Problems

6 Hrs.

- 1. In problems involving the epidemiology of communicable disease.
- 2. Sanitary engineering problems.
- 3. Problems related to nutrition; such as: the availability of rare elements and rare elements requirements in human nutrition; the improvement in the nutritive value of diets and dietary constituents.
- 3 Hrs. Session M.5 Genetic Effects (including the fields of Botany and Zoology)
- 3 Hrs. Session M.6: Radiation Injury and Protection
  - 1. Modes of radiation injury.
  - 2. Maximum permissible exposure standards.
  - 3. Health and safety activities in reactor operations.
  - 4. Health and safety requirements in the transport of radioactive materials.
  - 5. Health protection in chemical processing plants.
  - 6. Biochemical and other protective aids.
- 3 Hrs. Session M.7: Topics of Biochemistry and Biology in Relation to Radioactive Radiation

This will include the use of radioactive isotopes and the use of radiation as a tool.

3 Hrs. Session M.8: Topics of Animal and Plant Physiology in Relation to Radioactive Radiation

This will include the use of radioactive isotopes and the use of radiation as a tool.

- 3 Hrs. Session M.9: Utilization of nuclear Energy in the Resolution of Special Problems in Agriculture and Silviculture, Including:
  - 1. Plant genetics and crop improvement.
  - 2. The movement of various components from soil to plants, to include a discussion of fertilizers and other materials affecting plant nutrition.

- 3. The role of rare elements.
- 4. Utilization of nuclear energy in tropical agriculture.
- 5. Pests and diseases.

# 3 Hrs. Session M.10: Environmental Mechanisms (Biological Studies)

- 1. The inter-relationship of radioactive contamination and its implications in and effect on world ecology.
- 2. Nuclear energy and the atmosphere.
- 3. Nuclear energy and oceanology.

# 3 Hrs. Session M.ll: Public Health Aspects Attendant on the Large Scale Utilization of Atomic Energy

- Environmental contamination. This could be a general discussion of the various types of contaminating radioactive materials, the circumstances of the occurrence of such contamination, and methods for control.
- 2. Biological cycles of fission products in land forms.
- 3. Biological cycles of fission products in aquatic systems.

# THE APPLICATIONS OF RADIOISOTOPES TO RESEARCH AND INDUSTRIAL PROBLEMS

# 3 Hrs. Session I.1: Tracers in General Research

Broad papers describing the special usefulness of radioisotpes in industry and research.

# 6 Hrs. Sessions I.2,I.3: Developments in Dosimetry, Instrumentation, and Remote Controls

- 1. Alpha, beta, gamma and neutron dosimetry covering the range from low levels important to mutation studies to high levels necessary to produce chemical effects.
- 2. Advances in instrumentation.
- Advances in remote control and servo-mechanisms; automatic sequence-times operations; safety control mechanisms.

# 3 Hrs. Session I.4: Applications of Isotopes in Process and Quality Control

Such as:

New developments in beta gauges and in automatic control systems.

Extraction columns: separation of rare earths; application to other industrial problems such as separation of petroleum hydrocarbons by classes.

Tracing mechanism of reactions: catalysis, cracking, reforming, etc.

Continuous chemical analysis, carbon-hydrogen ratio detector, "octane rating" of gasolines.

Materials testing: Xerography, radiographic inspection boiler codes; service-simulated wear testing, improvements in high-pressure lubricants; new developments in mechanics and metallurgy.

Possible applications of radioactive materials in an "automatic factory."

# 3 Hrs. Session I.5: Industrial Utilization of Fission Products

- 1. Quantities of fission products that might be available at various levels of an atomic-power economy.
- 2. Industrial utilization of radiation effects, such as: on plastics, petroleum hydro-carbons, organic compounds (Teflon, etc.); types of research presently underway; initiation of chemical reactions; estimate of costs of irradiation in specific examples.
- 3. Radiation sterilization of foods: fundamental studies (enzyme destruction, oxidation effects, inhibition of reactions), feeding studies; economic aspects of radiation-sterilization.
- 4. Direct conversion of radiation into electricity.

#### CLOSING PLENARY SESSION

## 3 Hrs. Session H:

- 1. The possible role of thorium in nuclear energy.
- Communications from states participating in the Conference concerning measures for assistance to other countries in the use of atomic energy for peaceful purposes.
- 3. Technical education and training of personnel in the field of nuclear energy.
- 4. Closing remarks, including a report on the highlights of the Conference prepared with the aid of the presiding officers of the different sessions, will be made by the President of the Conference at this plenary session.

#### EVENING LECTURES

Evening sessions should be arranged in which lectures of a high standard, but of a general character, will be given by scientists of world repute on subjects such as:

- 1. Accelerators for particles
- 2. Elementary particles and mesons
- 3. Nuclear forces
- 4. Nuclear structure
- 5. The neutron
- 6. Isotopic dating
- 7. Uses of radioactive substances in biology and medicine
- 8. Free radicals
- 9. New elements

#### ANNEX II

RULES OF PROCEDURE OF THE INTERNATIONAL CONFERENCE ON THE PEACEFUL USES OF ATOMIC ENERGY

To be Convened in Geneva on 8 August 1955, in Pursuance of Resolution 810 (IX) of the General Assembly of the United Nations of 4 December 1954

CHAPTER I - AGENDA, PARTICIPATION AND CREDENTIALS

## Rule 1

The Conference shall consider items included in the detailed Agenda and Programme prepared by the Secretary-General of the United Nations with the advice of the Advisory Committee in accordance with paragraph 5 of resolution 810 (IX) of the General Assembly of 4 December 1954, and circulated to the invitees to the Conference on 1 February.

# Rule 2

Each State invited to the Conference in accordance with paragraph 3 of resolution 810 (IX) of the General Assembly may be represented at the Conference by not more than five representatives, including, to the extent possible, individual experts competent in the atomic energy field. The representatives may be accompanied by such number of advisers as may be required, in the general interest of the Conference, to ensure adequate presentation and discussion of technical papers.

# Rule 3

The representation of each interested specialized agency, invited to the Conference in accordance with paragraph 7 of resolution 810 (IX) of the General Assembly, should be on the basis of an agreement with the Secretary-General of the United Nations, bearing in mind that such representation shall not exceed five for any specialized agency.

#### Rule 4

The list of representatives of each participating State shall be issued either by the Head of the State, or Government, or by the Minister of Foreign Affairs or his nominee and communicated to the Conference Secretary General in good time and in any case not less than fourteen days before the convening of the Conference. Lists of proposed advisers shall be sent to the Conference Secretary General not less than fourteen days in advance of the opening of the Conference.

## Rule 5

The Conference Secretary General, in consultation with the representatives designated by the Secretary-General of the United Nations as President and Vice-Presidents of the Conference, shall examine the lists of representatives, which shall constitute the credentials of the representatives to the Conference, and shall circulate to the Conference for its information a report on this examination.

#### CHAPTER II - OFFICERS OF THE CONFERENCE

# Rule 6

The officers of the Conference shall comprise the following: the President, the Vice-Presidents, the Chairmen and Rapporteurs of sections. They shall be appointed by the Secretary-General of the United Nations in advance of the Conference from among representatives eminent in the fields of concern to the Conference, and in their selection regard shall be had to an equitable geographical distribution of posts.

The Conference Secretary General shall also be an officer of it.

The Secretary-General of the United Nations shall place the list of officers before the Conference at its first plenary session for affirmation.\*

## Rule 7

The Secretariat of the Conference shall comprise a Conference Secretary General, his Deputy and such other staff provided by the Secretary-General of the United Nations as may be required by the Conference.

#### Rule 8

The Conference Secretary General, acting under the authority of the Secretary-General of the United Nations, and in accordance with the rules and obligations applying to members of the United Nations Secretariat, shall be primarily responsible for the preparation of the Conference and for making all necessary arrangements for meetings, and shall direct all other work connected with the Conference. He may designate another member of the Conference Secretariat to take his place at any meeting of the Conference.

<sup>\*</sup> It is the view of the Advisory Committee and the Secretary-General that, it being desirable to avoid nominations of and debate on officers in a Conference of this nature and size, and since there is important work to be done by the Officers of the Conference during its preparatory stage, the sense of this Rule is that the Conference would approve the list of officers by acclamation.

#### Rule 9

The Conference Secretary General and his Deputy may, subject to the provisions of rule 11, make oral as well as written statements to the Conference concerning any matter relating to it.

CHAPTER III - ORGANIZATION OF THE WORK OF THE CONFERENCE

## Rule 10

The work of the Conference shall be conducted in plenary meetings and in meetings of sections, in accordance with a programme prepared and distributed to participants in advance of the Conference by the Secretary-General of the United Nations in consultation with the Advisory Committee.

## Rule 11

The President shall declare the opening and closing of each plenary meeting of the Conference, accord the right to speak and, subject to these rules of procedure, shall have complete control of the proceedings in the meeting and the maintenance of order therein. The President may call a speaker to order if his remarks are not relevant to the subject under discussion. He may limit the time to be allowed to speakers, limit the number of times each participant may speak on any question, close the list of speakers or close the discussions. He may suspend or adjourn a meeting or adjourn the discussion on the item under consideration.

#### Rule 12

Participants may address meetings of the Conference only through recognition by the presiding officer. The presiding officer shall call upon speakers in the order in which they express their desire to speak.

## Rule 13

No proposals requiring adoption by voting shall be submitted or entertained by the Conference. The presiding officer of any meeting may, however, ascertain the sense of the meeting on matters not relating to the substance of an item on the agenda.

#### Rule 14

At the request of the President, one of the Vice-Presidents designated by the President may preside over any plenary meeting of the Conference. A Vice-President acting as President shall have the same powers and duties as the President.

### Rule 15

The meetings of each section of the Conference shall be presided over by the chairman of the section, whose powers and functions shall be similar to those of the President of the Conference at plenary meetings as provided in rules 11 and 12.

# Rule 16

The rapporteur of each section shall keep the President and the Conference Secretary General informed of the progress, trends and major points emerging in the discussions of the section.

#### CHAPTER IV - LANGUAGES

## Rule 17

English, French, Russian and Spanish shall be the languages of the Conference.

## Rule 18

Speeches made in one of the languages of the Conference shall be interpreted into its other languages.

## Rule 19

A participant may employ a language other than one of the four languages of the Conference subject to the condition that he shall himself provide for interpretation into one of the four languages. Interpretation into the other languages by an interpreter of the Secretariat may be based on the interpretation given in the first language.

# CHAPTER V - RECORDS

## Rule 20

Verbatim records of all plenary and section meetings shall be established by the Secretariat in the four languages. These records shall be for inclusion in the Proceedings of the Conference. They shall be available in provisional form to participants in the Conference as soon as possible.

## CHAPTER VI - PUBLICITY OF MEETINGS

#### Rule 21

All plenary and section meetings of the Conference shall be held in public.

#### CHAPTER VII - PUBLICATION OF PROCEEDINGS

#### Rule 22

The Proceedings of the Conference, which shall be compiled by the Conference Secretary General, shall be published by the Secretary-General of the United Nations in the languages of the Conference and shall include in addition to introductory material relating to the convening of the Conference, its organization and composition, the records of plenary and section meetings and all conference papers, as provided in Rule C of the Annex to these Rules, together with the abstracts referred to in Rule B of the Annex.

# Rule 23

In addition to the distribution of the Proceedings of the Conference to the participating Governments and specialized agencies, each officer of the Conference and each author of a paper accepted for the Conference shall be entitled to one copy without cost.

#### CHAPTER VIII - EXPENSES

## Rule 24

Expenses of whatever nature incurred by participants in the Conference shall not be an obligation of the United Nations. All other costs involved in holding the Conference shall be defrayed by the United Nations.

#### ANNEX

# Rule A

The subjects of all papers shall be in conformity with the purpose of the Conference as defined in Resolution 810 (IX) of the General Assembly and accordingly shall be dealt with and presented only from the scientific and technical points of view.

## Rule B

Papers for presentation at the Conference shall be submitted to the Secretary-General of the United Nations in original and three copies, in one of the languages of the Conference. An abstract of each paper in original and three copies, not exceeding 500 words, shall also be submitted. In order to facilitate the preparations for the Conference, abstracts and full texts of papers should be submitted at the earliest possible date. In any case, the full texts of the papers themselves shall be submitted to the Secretary-General of the United Nations not later than 1 July, while the titles and abstracts shall be submitted, if possible, not later than 15 May. Supplements to papers, where necessary to bring them up to date, may be submitted up to 1 August.

# Rule C

All papers submitted by participants in the Conference, if they conform to Rule A, shall be considered as Conference papers and whether or not presented orally at a session of the Conference in full or in part, shall be included in the Proceedings of the Conference. Since, owing to limitations of time, all papers submitted cannot be presented orally at the Conference, a selection of those papers to be presented orally in full or in part shall be made by a panel (or panels) of qualified scientists, designated by the Secretary-General of the United Nations on the advice of the Advisory Committee, and serving for this purpose as members of the United Nations Secretariat. The Secretary-General shall consult with the Advisory Committee on the results of such review.

## Rule D

Assignments by Governments for the preparation of papers for the Conference should be offered only to their own nationals.

## Rule E

All papers prepared and submitted in advance in accordance with Rule B shall be distributed without delay to all States participating in the Conference for their confidential information before the opening of the

Conference. With regard to communications which may not have been submitted in advance of the opening of the Conference, such communications shall be distributed to the participants as soon as possible after their submission to the Secretary-General of the United Nations or their delivery before the Conference.

# ANNEX III

In accordance with the Rules of Procedure of the Conference, the Government of the Union of Soviet Socialist Republics has stated its intention to submit under item D.2 of the Topical Agenda a paper titled: "The U.S.S.R.'s First Atomic Power Plant for Industrial Purposes and Methods of Developing Atomic Power."

As additional information of this nature is received, the Governments participating in the Conference will be informed.