



**PEACEFUL USES
OF ATOMIC ENERGY**

**Proceedings of
the Third International Conference
on the Peaceful Uses of Atomic Energy**

**Held in Geneva
31 August–9 September 1964**

**Volume 1
Progress in Atomic Energy**

MULTILINGUAL EDITION
ÉDITION MULTILINGUE
МНОГОЯЗЫЧНОЕ ИЗДАНИЕ
EDICIÓN PLURILINGÜE



**UNITED NATIONS
New York
1965**



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Programme of the Conference

The programme shown here is that prepared by the Conference Secretariat. In some cases, subsequent last minute changes were necessary, but by and large the Conference proceeded as planned. The various records of session in the respective volumes show the proceedings as they actually took place.

GENERAL SESSIONS

(Sessions A-H)

Session A: 31 August, 10.30 (Vol. 1)

OPENING OF THE CONFERENCE

President: V. S. Emelyanov (USSR)

Call to order by the President of the Conference

Address of welcome by the President of the Swiss Confederation, Mr. Ludwig VON MOOS

Address by U THANT, Secretary-General of the United Nations, Chairman of the United Nations Scientific Advisory Committee

Address by the President of the Conference, Professor V. S. EMEL'YANOV

Address by the Director General, International Atomic Energy Agency, Mr. Sigvard A. EKLUND

Presentation of messages from Heads of State or Government of the countries represented on the United Nations Scientific Advisory Committee

Session B: 31 August, 15.00 (Vol. 1)

NEW ECONOMIC DATA. ENERGY NEEDS IN COMING YEARS AND THE ROLE OF NUCLEAR POWER IN MEETING THESE NEEDS

Chairman: H. J. Bhabha (India)

Scientific Secretaries: J. E. Shallcross (UK), R. Krymm (IAEA)

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Nuclear power in the United Kingdom..... Sir William Penney

P/31 (France)

France's nuclear power programme..... J. Cabanius, J. Horowitz

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Future energy needs and the role of nuclear power..... G. F. Tape *et al.*

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Trends in atomic power development in the USSR..... N. M. Sinev *et al.*

P/1 (Canada)

Electricity supply in Canada and the role of nuclear power..... W. B. Lewis, T. G. Church

P/577 (Japan)

Needs of nuclear power generation and the related programme in Japan..... Japan Atomic Energy Commission

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The role of nuclear power in meeting energy needs in other countries

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Session C: 9 September, 15.00 (Vol. 1)

INTERNATIONAL COLLABORATION IN NUCLEAR REACTOR PROJECTS, INCLUDING DEVELOPMENTS OF MAJOR CO-OPERATIVE INSTALLATIONS

Chairman: F. Perrin (France)

Scientific Secretaries: J. E. Shallcross (UK), R. Krymm (IAEA)

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International cooperation on nuclear power..... H. D. Smyth

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International co-operation in the field of atomic energy..... I. D. Morokhov *et al.*

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Review of engineering work for the DRAGON Project..... G. Franco *et al.*

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Chairman: W. B. Lewis (Canada)

Scientific Secretaries: C. B. Bigham (Canada), R. Skjöldebrand (IAEA)

Chairman's remarks

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Review of research reactor activities in the USSR.

V. V. Goncharov

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P/33 (France)

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Utilization of research reactors at Trombay.

R. Ramanna

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Scientific Secretaries: S. D. Fanshenko (USSR),

D. de Lacerda Coutinho (Brazil)

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Scientific Secretaries: A. Sanielevici (IAEA), J. Mehl (IAEA)

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P/875 (IAEA)

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APPLICATIONS OF ISOTOPES AND RADIATION SOURCES IN THE LIFE SCIENCES

Chairman: L. Cintra do Prado (Brazil)

Scientific Secretaries: C. Christenson (IAEA), A. Sanielevici (IAEA)

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P/880 (IAEA/WHO)

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President: V. S. Emelyanov (USSR)

Address by the President

Address by the Director General, International Atomic Energy Agency, Mr. Sigvard A. EKLUND

Address by the Director of the European Office of the United Nations, Mr. P. P. SPINELLI

Closing by the President

TECHNICAL SESSIONS

I. REACTOR APPLICATIONS

1.1 — 1.5 Power reactors

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Chairman: T. Mukaibo (Japan)

Scientific Secretaries: C. B. Bigham (Canada), J. M. Harrer (USA)

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- P/36 (France)
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- P/128 (UK)
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- P/125 (UK)
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- Discussion

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Chairman: G. Randers (Norway)

Scientific Secretaries: C. B. Bigham (Canada), J. M. Harrer (USA)

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- P/202 (USA)
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- P/304 (USSR)
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- Discussion

Session 1.3: 4 September, 15.00 (Vol. 5)

HEAVY WATER, AND ORGANIC REACTORS

Chairman: M. J. Horowitz (France)

Scientific Secretaries: J. M. Harrer (USA), J. D. McCullen (IAEA)

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- P/209 (USA)
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Chairman: R. V. Moore (United Kingdom)

Scientific Secretaries: J. D. McCullen (IAEA),
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- Chairman: C. Williams (USA)
Scientific Secretaries: J. M. Harrer (USA), Munir A. Khan (IAEA)
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- Chairman: I. H. Usmani (Pakistan)
Scientific Secretaries: J. E. Shallcross (UK), R. Krymm (IAEA)
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Scientific Secretaries: J. M. Harrer (USA), Munir A. Khan (IAEA)
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- Chairman: A. M. Weinberg (USA)
Scientific Secretaries: C. B. Bigham (Canada), B. Semenov (IAEA)
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Session 1.9: 8 September, 9.30 (Vol. 7)

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Chairman: A. P. Alexandrov (USSR)

Scientific Secretaries: B. Semenov (IAEA),
R. Skjöldebrand (IAEA)

Chairman's remarks

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Chairman: P. J. Nowaski (Poland)

Scientific Secretaries: Munir A. Khan (IAEA), B. Semenov (IAEA)

Chairman's remarks

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Session 1.11 (Half Session): 1 September, 9.30 (Vol. 8)

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Chairman: N. A. Dollezhal (USSR)

Scientific Secretaries: Munir A. Khan (IAEA), R. Skjöldebrand (IAEA)

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II. FUEL AND MATERIAL PROBLEMS

2.1 — 2.3 Fuel fabrication and properties

Session 2.1: 1 September, 9.30 (Vol. 11)

METALLIC AND VARIOUS FUELS

Chairman: A. A. Bochvar (USSR)

Scientific Secretaries: J. M. Phéline (France), J. G. Boyle (IAEA)

Chairman's remarks

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Chairman: M. Salesse (France)

Scientific Secretaries: J. G. Boyle (IAEA), O. Vojtech (IAEA)

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P/19 (Canada)

Fission-gas behaviour in UO_2 fuel... W. B. Lewis *et al.*

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Session 2.3: 2 September, 9.30 (Vol. 10)

FUEL ELEMENT FABRICATION AND EXPERIENCE

Chairman: S. Lawroski (United States of America)

Scientific Secretaries: J. M. Phéline (France), J. C. Delaney (IAEA)

Chairman's remarks

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