



ADVANCE PROGRAM

1962 Nuclear Congress

**NEW YORK
STATLER HILTON HOTEL**

JUNE 4-7 1962

The 1962 Nuclear Congress will provide professional engineers and management with an up-to-date review of engineering problems in the nuclear field. It will provide state of the art presentations and authoritative reviews by well qualified and active participants in the application of engineering to nuclear problems. Major attention will be focused on the status of civilian power reactors, on the impact on the public nuclear reactor and radiochemical processing plants and to the major issues now facing the nuclear industry.

The site for the 1962 Nuclear Congress - New York City - is the ideal location for conventions. The largest metropolitan complex in the Western Hemisphere, New York can be easily reached by all means of transportation and offers unlimited and varied facilities for accommodations and entertainment.

The headquarters hotel - Statler Hilton - is centrally located in the Pennsylvania Station area - convenient to subways and buses to all parts of the city.

Wives of Congress registrants are particularly welcome and will find a variety of activities to enjoy at a time of year - early June - when the weather is ideal. Although a formal ladies program is not planned, there will be assistance through the New York Convention Bureau at Congress headquarters for planning tours, shopping trips and the performing arts.

Register early for the Congress and send in hotel reservations for the family!

REGISTRATION

Fees:

Registration - (Includes admission to all technical sessions)	\$15.00
Registration and set of all available preprints	\$30.00
Students - (Does not include preprints)	\$ 1.00
Set of all available preprints	\$20.00
Banquet - per plate	\$12.00

Pre-registration forms are provided at the back of this program. These are to be sent directly to Engineers Joint Council, 345 East 47th Street, New York 17, New York. All pre-registration must be accompanied by full payment. Cancellations will be accepted through May 29, 1962.

Registration will be conducted at the Statler Hilton Hotel in the PENNTOP corridor, 8 a.m. to 4 p.m., June 4-7.

HEADQUARTERS HOTEL

Headquarters for the Congress will be the Statler Hilton Hotel located on 7th Avenue at 33rd Street, opposite Penn Station. An early request for accommodations is recommended. Reservations will be made in order of request. You may use the reservation form provided and send directly to the Statler Hilton.

TECHNICAL SESSIONS

All technical sessions of the Congress will be held in the Statler Hilton Hotel. Exact time and room numbers will appear in the final program. Approximately 100 papers, covering 13 major areas of interest, will be read and discussed during the 3 days of the Congress.

A list of sessions, papers and authors appears on the following pages.

AVAILABILITY OF PAPERS

All papers available for printing prior to the Congress will be sold at the meeting for 50¢ per copy or \$20 per set. Following the Congress, preprints will be available on request from Engineers Joint Council, 345 East 47th Street, New York 17, New York.

BANQUET

With the cooperation and support of all participating organizations, a general banquet and reception will be held Monday evening, June 4th at the Statler Hilton Hotel. Guest speaker will be Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission. Preceded by a complimentary reception, the banquet will be the major social gathering of the Congress. Tickets may be purchased with advance registration or until 2 p.m. Monday, June 4th. Attire for this event will be business suit. Ladies are welcome.

ACTIVITIES

Films - A selected number of recently released technical films will be shown in a continuous series on each day of the Congress. Included in the program will be such titles as: "Nuclear Reactors in Space", "Plutonium Fabrication", and "Introduction to High Vacuum". Registration includes admission to this feature. A complete list of films and a time schedule will be available at the Congress.

Panel Discussion - A special event of the Congress will be a panel discussion entitled, "How the United States Should Spend Its Research and Development Dollar". Dr. James R. Killian, Jr., Chairman, Corporation of M.I.T. will be the moderator. Among the participants will be the Honorable Chet Holifield, Chairman, Joint Committee on Atomic Energy, U.S. Congress; Dr. Warren Weaver, Vice President, Alfred P. Sloan Foundation; and Mr. Dan A. Kimball, President, Aerojet-General Corporation. The discussion will be held on the evening of June 5th at a time and place to be announced at a later date.

Field Trips - Arrangements are underway for the scheduling of field trips to reactor installations and nuclear laboratories on Thursday, June 7th. Information regarding transportation, location and time schedules will be available at the Congress.

SESSIONS

Monday - June 4th, all day OPERATING EXPERIENCE WITH POWER REACTORS

Chairman: R. B. Richards
Vice-chairman: Don Stewart

Title	Author	Affiliation
Power Reactor Experience	Frank Pittman	AEC
Heavy Water Moderated and Cooled Reactors	W. B. Lewis	AECL
Operating Experience With the Yankee Power Reactor	W. J. Miller	Yankee Atomic Electric Co.
Boiling Water Reactors	Murray Joslin K. T. Perkins	Commonwealth GE-APED
Operating Experience with the SRE	R. W. Dickinson and A. C. Werden, Jr. (So. Calif. Edison Co.)	Atomics International
Operating Experience with PRTR Reactor	D. R. Koberg R. H. Purcell	GE-HAPO
Operating Experience at Shippingport Since Initial Startup	G. M. Oldham	DuQuesne Light Co.
Operating Experience with the Kahl Reactor	August Wechesser	RWE, Germany
French Experience with Gas-cooled Reactors		France
Four-man panel: "The Lessons from Operating Experience"	L. H. Roddis, Jr. W. K. Davis Norman Hilberry Fred Gilbert	Pennsylvania Elec. Co. Bechtel Corp. Argonne Nat'l. Lab. AECL

Tuesday - June 5th, all day PROBLEMS OF ADVANCED REACTORS

Chairman: B. W. Dunnington
Vice-chairman: N. F. Sievering, Jr.

Title	Author	Affiliation
AEC Advanced Reactor Program	Col. W. A. Tesch	AEC
Direct Conversion Thermo-electric Reactor Studies	E. G. Schwartz J. C. Danko G. R. Kilp	Westinghouse
Nuclear Superheat for Boiling Water Reactors	D. H. Imhoff R. T. Pennington	General Electric
Developments in Reactors with Mobile Fuel	R. B. Briggs	ORNL

SESSIONS

Problems of Advanced Reactors (cont'd)

Title	Author	Affiliation
Advanced Fast Reactors	A. Amorosi	Atomic Power Development Associates
Fuel and Materials Developments for Advanced Reactors	J. F. Schumar	General Atomics
Status of the Application of Nuclear Reactors in the Process Industry	R. W. Ritzmann	AEC
Organic-cooled D_2O Moderated Reactor	Jules Geuron	EURATOM
The AVR-High Temperature Gas Cooled Reactor	H. W. Schmidt	Brown-Boveri-Krupp, Germany
CNEN Program for a Mercury Binary Cycle Power Plant	Aldo Forcella	CNEN, Italy

Tuesday & Wednesday - June 5th & 6th, afternoon PUBLIC ASPECTS OF NUCLEAR USE

Chairman: James G. Terrill
Vice-chairman: Jack H. Fooks

Title	Author	Affiliation
Public Aspects of Planning for Safety		
Session Chairman:	C. R. Williams	Liberty Mutual Ins. Co.
Organization of Nuclear Industry to Meet Responsibilities for Personnel Safety, Internal Rules, Training, and Self Inspection	J. W. Bernsee	Yankee Atomic Electric Co.
New Regulations of Importance to Nuclear Industry (Panel of Experts)	Harold Price Oliver Townsend C. W. Klassen	AEC State of New York State of Illinois
Governmental Complex for Handling Emergencies	N. H. Woodruff	AEC
John Q. Public vs. Ionizing Radiation	R. T. Waite	Aetna Casualty and Surety Company
Employee Insurance, Underwriting, and Claim Requirements in the Nuclear Industry	W. J. Uber	Employers Mutuals of Wausau

Control of Hazards Relating to the Public Environment		
Title	Author	Affiliation
Session Chairman:	Merrill Eisenbud	New York University
Environmental Monitoring at Nuclear Facilities	M. I. Goldman, C. R. McCullough W. F. Witzig	Nuclear Utility Services, Inc.

SESSIONS

Public Aspects of Nuclear Use (cont'd)

Title	Author	Affiliation
Factors Establishing Limits for Release of Effluents from the Plutonium Recycle Test Reactor	R. F. Foster, G. B. Backman, N. G. Wittenbrock & J. M. Skarpelos	GE-HAPO
Studies on the Distribution of Radionuclides in the Clinch and Tennessee Rivers below Oak Ridge	A. G. Friend D. B. Porcella	Taft Sanitary Engineering Center
Nuclear Power Plants and the Antarctic Environment	P. W. Brewer R. J. Bartell	U. S. Navy
Site Selection	R. F. Farmer	Risley, England

Tuesday - June 5th, all day THE NUCLEAR FUEL CYCLE

Chairman: W. E. Shoupp
Vice-chairman: Robert Hartwell

Title	Author	Affiliation
Present and Predicted Fuel Cycle Economics of the Major Reactor Systems	U. M. Staebler	AEC
Economics of Stainless Steel and Zircaloy-clad Uranium Oxide Fuel Elements	A. R. Jones	Westinghouse
The Thorium Fuel Cycle	Milton Edlund	Babcock & Wilcox
A Progress Report on the Plutonium Recycle Program	H. M. Parker W. K. Woods	GE-HAPO
Fuel Cycle Costs for Specific Power Reactors	R. D. Walton, Jr.	AEC
Semi-work Scale Recovery of Strontium	A. M. Platt	GE-HAPO
Design and Development of a Shipping Cask for Strontium	C. W. Smith	GE-HAPO
Trends in Pooling and Utility Growth	J. K. Dillard	Westinghouse
Private Versus Government Reprocessing	T. C. Runion	Davison Chemical Co.
Likely Effects of Private Ownership of Special Nuclear Materials	K. D. Nichols	Consultant

SESSIONS

Wednesday - June 6th, all day RADIOCHEMICAL PROCESSING OF IRRADIATED REACTOR FUELS

Chairman: Stephen Lawroski
Vice-chairman: S. M. Stoller

Title	Author	Affiliation
Preparation of Stainless Steel, Zirconium and Graphite Clad and Base Reactor Fuels for Solvent Extraction	R. E. Blanco, L. M. Ferris, C. D. Watson	ORNL
Preparation of Aluminum-Clad Uranium Fuels for Solvent Extraction	R. I. Martens, W. L. Poe, Jr. A. E. Wible	Du Pont
Status of Solvent Extraction Processing of Irradiated Uranium Fuels	M. K. Harmon	GE-HAPO
Status of Pyrometallurgical Processing of Irradiated Reactor Fuels	M. Levenson	Argonne
Management of High-Level Wastes--Current Practice	B. F. Campbell E. D. Doud R. E. Tomlinson	GE-HAPO
Management of High Level Waste--Future Possibilities	J. I. Stevens J. A. McBride	Phillips Petroleum Co.
Design Philosophy for a Remote Maintenance Radiochemical Processing Plant	R. J. Christl A. E. Daking	Du Pont
Design Philosophy for Directly Maintained Radiochemical Processing Plants	J. C. Bresee J. T. Long	ORNL
Design Philosophy for Small Size Radiochemical Processing Plants	C. M. Slansky and J. A. McBride	Phillips Petroleum Co.
Shipping and Storing Power Fuels Prior to Processing	S. D. Smiley J. W. Langhaar R. Maher	DuPont
Some Comments on the Economics of Fuel Reprocessing	V. R. Thayer T. J. Colven	Du Pont

SESSIONS

Tuesday - June 5th, afternoon
 Wednesday - June 6th, morning

IMPORTANCE TO MANAGEMENT OF COMPUTER SOLUTIONS OF NUCLEAR PROBLEMS

Chairman: B. H. Mount
 Vice-chairman: H. P. Flatt

Title	Author	Affiliation
<u>Economic Factors</u>		
Optimization of Heavy Water Power Reactors	L. Isakoff, * J. W. Wade, & J. G. Brewer Du Pont W. A. Chittenden & G. F. Hoveke. . . Sargent & Lundy	
Radial Flux-Flattening in the OMR Critical Assembly by Variable Fuel-to-Moderator Ratio	R. A. Blaine	Atomics Int'l.
Application of Critical Path Scheduling Method to the Pre-startup Activities in the Nuclear Reactor	C. P. Hayner	HAPO
Economic Aspects of System Expansion with Nuclear Units	P. A. Salmon C. J. Baldwin H. G. Houser J. A. Casazza	Westinghouse
A Digital Computer Analysis of Pressurized Water Nuclear Power Plant Start-up Using Natural Circulation	A. N. Nahavandi B. H. Axelson	Westinghouse
<u>Heat and Fluid Dynamics</u>		
A Digital Computer Analysis of Loss-of-Coolant Accident for a Multi-circuit Core Nuclear Power Plant	A. N. Nahavandi W. A. Webb	Westinghouse
<u>Stress</u>		
Computer Techniques for Stress Problems in Reactor Fuel Vessels	L. M. Cassidy R. J. McGrattan	Electric Boat
Numerical Solutions of Stress Problems in Reactor Fuel Elements	R. F. Redmond L. E. Hulbert	Battelle Memorial Institute
Analysis of Reactor Support Grids	C. E. Aldrich J. E. Cadoret L. H. Chen	Electric Boat
<u>Miscellaneous</u>		
Digital Computer Processing of Pilot Plant Data	E. C. Moncrief M. C. Hill	ORNL
A Computer Program for Radiation Environment Investigation	M. P. Billings	Martin Nuclear

*presenting author

SESSIONS

Wednesday - June 6th, morning
 NUCLEAR EDUCATION FOR ENGINEERS

Chairman: N. J. Palladino
 Vice-chairman: R. C. Anderson

Title	Author	Affiliation
Needs and Problems of Providing Nuclear Training in Public Utilities	Warren Witzig	Nuclear Utility Services, Inc.
Needs and Opportunities for Training Engineers in the Use of Radioisotopes	Ralph Overman	AEC
The Role of the University in Nuclear Training and Education--Regular and Special Programs	Glenn Murphy	Iowa State College
The Role of the Government in Nuclear Education	John Cera	AEC
Nuclear Engineering Education for Navy Civil Engineer Corps Officers	W. J. Christensen	US Navy

Wednesday - June 6th, morning RADIATION EFFECTS ON PROPERTIES OF METALS FOR PRESSURIZED REACTORS

Chairman: M. A. Cordovi
 Vice-chairman: W. S. Pellini

Title	Author	Affiliation
Critical Factors in the Interpretation of Radiation Effects on the Properties of Metals	R. G. Berggren	ORNL
Operating Conditions for Nuclear Pressure Vessels	L. R. Weissert & D. K. Davis	Babcock & Wilcox
Design Criteria for Radiation Damage in Reactor Vessels	D. W. McLaughlin	Alco Products, Inc.
Surveillance Programs for Critical Reactor Components	L. E. Steele	Naval Research Laboratory

Tuesday - June 5th, morning INSTRUMENTATION AND CONTROL OF NUCLEAR POWER PLANTS

Chairman: J. G. Lundholm, Jr.
 Vice-chairman: H. A. Lamonds

Title	Author	Affiliation
Design and Performance of the Dresden Station In-core Monitor System	J. Forster	GE-APED

SESSIONS

Instrumentation and Control of Nuclear Power Plants (cont'd)

Title	Author	Affiliation
The Yankee Reactor Instrumentation & Control System	Donald Beatty & D. A. Hansen, Jr.	Westinghouse Yankee Atomic Elec. Co.
The Fermi Control System Test Program Employing On-site Computer	Romolo Bertino & Richard Olson	Fermi Power Plant
Reducing Nuclear Power Costs with Improved Instruments	J. N. Wilson	Du Pont
Computer Control of Nuclear Power Plants	Ernest Siddall	AECL

Tuesday - June 5th, morning

MODERN ANALYSIS AND NONDESTRUCTIVE TESTING METHODS

Chairman: W. J. McGonnagle
Vice-chairman: John Conner

Title	Author	Affiliation
Ultrasonic Methods for Examination and Acceptance of Components	R. W. McClung	ORNL
Evaluation and Inspection of Materials by use of Eddy Currents	Hugo Libby	GE-HAPO
Development and Application of Radiographic Techniques	Gerold Tenney	Los Alamos
Nondestructive Fuel Assay	N. S. Beyer	ANL
Importance of Chemical Analysis in Power Reactor Operations	H. M. Kelley L. M. Arnett	Du Pont-SRL

Wednesday - June 6th, all day

SPECIAL NUCLEAR ENERGY APPLICATIONS

Chairman: E. M. Saunders
Vice-chairman: J. W. Hitch

Title	Author	Affiliation
Maritime Propulsion Reactor	Richard P. Godwin	Bechtel Corporation
Power Reactors for Military Applications	M. A. Rosen W. C. Christensen N. N. Triner	AEC--Army Reactor Branch
Nuclear Power Plants in the Antarctic	R. J. Bartell	U.S. Navy--Nuclear Power Division
Plowshare - Applications of Nuclear Explosives	John S. Kelly	AEC--Div. of Peaceful Nuclear Explosions
Engineering Problems in Nuclear Medicine	Elmer F. Stickley	Columbia University

SESSIONS

Special Nuclear Energy Applications (cont'd)

Title	Author	Affiliation
Isotopic Heat and Power	C. E. Crompton	Martin Company
Food Preservation by Nuclear Energy	F. P. Mehrlich	QM Food and Container Institute
Promotion of Chemical Processes with Reactor Radiation	Paul Harteck and S. Dondes	Rensselaer Polytechnic Institute
Tracers in Smog Control, Water Resources, and Stream Pollution	Ralph L. Ely	Research, Triangle Institute
Nuclear Instrumentation Controls for Industry	D. C. Brunton	Industrial Nucleonics Corporation

Wednesday - June 6th afternoon

HEAT TRANSFER IN NUCLEAR POWER REACTORS

Chairman: Ralph P. Stein
Vice-chairman: Ronald M. Scroggins

Title	Author	Affiliation
Thermal and Hydraulic Performance of Reactors	Solomon Levy	GE-San Jose
Liquid Metal Heat Transfer in Nuclear Power Reactors	Aaron Friedland	Atomic Power Develop- ment Associates
Thermal Design Aspects of Gas-Cooled Reactors	Marius Troost & Robert Katz	General Atomics
Organic Heat Transfer	Thomas Shimazaki Don Huber K. L. Adler	Atomics Int'l.
Fog Coolants	G. Sofer	United Nuclear Corp.

Wednesday - June 6th, afternoon

RECOMMENDED ENGINEERING PRACTICES AND STANDARDS IN THE NUCLEAR FIELD

Chairman: C. Rogers McCullough
Vice-chairman: F. L. LaQue

Title	Author	Affiliation
The Basis and Content of a Nuclear Pressure Vessel Code	E. O. Bergman	Nat'l. Eng. Sci. Co.
Criteria for Piping Valves and Pumps	J. A. Klapper	EBASCO Services, Inc.
Primary Circuit Structural Materials for Nuclear Power Plants	M. A. Cordovi & C. R. Johnson	Int'l. Nickel Co. Babcock & Wilcox
Reliability Requirements for Nuclear Power Stations	George Laurence	Radiation Control Board, Canada

ADVANCE REGISTRATION FORM

Send directly to:
Engineers Joint Council
 345 East 47th Street
 New York 17, New York

Enclosed is my check in payment for the following:
 (Please indicate number desired. Prices are per person.)
 (Number)

- _____ Registration only - \$15 \$ _____
- or
- _____ Registration and set of available papers - \$30 \$ _____
- _____ Set of available papers - \$20 \$ _____
- _____ Banquet - \$12 \$ _____

The Total Amount of My Check is _____
 (make check payable to Engineers Joint Council)

Name _____
 Company _____
 Street _____
 City _____ Zone _____ State _____

Are you interested in participating in plant visits on June 7th?
 Yes No

Tickets, badges, and papers will be held at the registration desk at the Congress to avoid loss or delay in delivery.

NUCLEAR CONGRESS HOTEL RESERVATION FORM

Use this form to reserve rooms at the Nuclear Congress headquarters hotel, the Statler Hilton. Send directly to the **Statler Hilton Hotel, 7th Avenue at 33rd Street, N.Y., N.Y., NOT to Engineers Joint Council.**

Please reserve:

- | | Rates |
|---|-----------|
| <input type="checkbox"/> Single Bedroom | \$10 - 14 |
| <input type="checkbox"/> Double Bedroom | \$11 - 18 |
| <input type="checkbox"/> Twin Bedroom | \$15 - 25 |

Arrival Date _____ Time _____
 Departure Date _____ Time _____
 Room to be occupied by: _____
 Address: _____

ENGINEERS JOINT COUNCIL

Sponsor of the Nuclear Congress
is composed of these 28 engineering
and technical societies:

American Association of Cost Engineers	American Society for Quality Control
American Institute of Chemical Engineers	American Society of Tool & Manufacturing Engineers
American Institute of Consulting Engineers	American Society for Testing Materials
American Institute of Electrical Engineers	American Water Works Association
American Institute of Mining, Metallurgical and Petroleum Engineers	Chinese Institute of Engineers
American Institute of Plant Engineers	Consulting Engineers Council
American Society of Agricultural Engineers	Engineering Societies of New England
American Society of Civil Engineers	Instrument Society of America
American Society for Engineering Education	Kentucky Society of Professional Engineers
American Society of Heating, Refrigerating and Air-Conditioning Engineers	Los Angeles Council of Engineering Societies
American Society of Mechanical Engineers	Louisiana Engineering Society
	Michigan Engineering Society
	North Carolina Society of Engineers
	Society of American Military Engineers
	South Carolina Society of Engineers
	Western Society of Engineers

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