

Atoms for Peace + 50

Nuclear Energy & Science for the Twenty-First Century

Final Agenda

8:00 – 8:30 AM — Welcoming Remarks and Conference Overview

Dr. Robert L. Pfaltzgraff, Jr., President, Institute for Foreign Policy Analysis, and Shelby Cullom Davis Professor of International Security Studies, The Fletcher School of Law and Diplomacy, Tufts University

Dr. John H. Marburger III, Science Advisor to the President and Director, Office of Science and Technology Policy

Kyle E. McSlarrow, Deputy Secretary of Energy

8:30 – 9:30 AM — Session 1

Setting the Stage: President Eisenhower’s Atoms for Peace

Panel Background:

President Dwight D. Eisenhower’s December 8, 1953 “Atoms for Peace” speech to the United Nations signaled a dramatic shift in U.S. policy. The speech was given in the early years of the Cold War. The Soviet Union posed a major threat that grew as the U.S. nuclear weapons monopoly was lost and the Soviet Union developed and tested atomic weapons. The speech had two major focal points: constraining the proliferation of nuclear weapons and using nuclear research to benefit all peoples. The speech led directly to the creation of the International Atomic Energy Agency (IAEA) in 1957, numerous multilateral non-proliferation agreements, the creation of the civilian nuclear power industry, and a flowering of scientific innovation that included great advances in nuclear medicine, and fundamentally new perspectives about the nature of matter and energy that have led to dozens of Nobel Prizes.

This opening session will examine the continuing legacy of the “Atoms for Peace” speech and will help set the stage for a discussion of what the next 50 years may bring in new technologies, science and efforts to control nuclear proliferation.

Questions to be addressed include:

- Did President Eisenhower appreciate the historical forces he was setting into motion with this speech, or was he simply responding to a Cold War crisis?
- If the “Atoms for Peace” speech had never been given, would history have taken a different course?
- Looking back over the past 50 years, would President Eisenhower believe today that his vision

had been achieved, or would he have hoped for even more progress?

- What are the similarities between 1953 and 2003 that would lead to a reaffirmation of the “Atoms for Peace” message?

Presentations:

Susan Eisenhower, President and CEO, The Eisenhower Institute

General Andrew J. Goodpaster, USA (Ret.), Senior Fellow, Eisenhower Institute; former Staff Secretary and Defense Liaison Officer to President Eisenhower; and former Commander-in-Chief, United States European Command and Supreme Allied Commander, Europe

9:30 – 9:45 AM — Break

9:45 – 11:45 AM — Session 2

Peaceful Power from Atomic Energy

Imported petroleum currently supplies more than 60 percent of domestic U.S. needs and is projected to rise to over 70 percent by 2020. This increasing reliance on oil imports from volatile regions of the world jeopardizes the Nation’s military and economic security. As imports rise, so does the Nation’s vulnerability to price shocks, shortages, or disruptions.

The National Energy Policy, released in May, 2001, described how to “bring together business, government, local communities and citizens to promote dependable, affordable and environmentally sound energy for the future.” The challenge is to make existing forms of energy use more secure, reliable and environmentally benign, while simultaneously preparing the long-term energy solutions that will eventually fully resolve questions about supply and environmental effects.

World energy trends necessitate that we make dramatic changes. President Bush has set ambitious goals for the steady reduction of pollution emissions and greenhouse gases from energy generation and consumption over the next ten to fifteen years. But no matter how much cleaner and more efficient we make today’s energy sources, the Nation will still confront growing energy demand and supply problems. The long-term solution is to make a fundamental change in our mix of energy options and, therefore, America’s energy future.

The Federal government’s role in the development of energy supplies is defined by policy, laws, regulations, tax incentives, and the development of technologies that industry alone would not or could not develop in a market-driven economy. The government has been instrumental in the development of nuclear power and the technology that supplies it, and it continues to collaborate with industry and international organizations on designs for safer nuclear power plants and fuel cycles.

This session will examine the growth of nuclear power over the last fifty years, the challenges it has faced, and the prospects and need for near term commercial nuclear power industry growth.

Questions to be addressed include:

- When President Eisenhower announced the bold initiative “to provide abundant electrical energy in the power starved areas of the world,” governments had a monopoly on its use and development. The nuclear power industry was gradually privatized and grew dramatically in the first two decades after the “Atoms for Peace” speech. However, following the Three Mile Island accident, industry ceased to grow. With the renewed demand for clean sources of energy, what is the appropriate role for the government in promoting solutions to this energy problem?
- Despite stagnant growth in new nuclear plants, nuclear has continued to increase output by increasing efficiency and up-rating equipment. What are the prospects for the nuclear industry as compared to other energy industries? Have we yet to see nuclear’s true role fulfilled?
- Three Mile Island and Chernobyl cast a very dark cloud over the nuclear industry. Now that we have greater historic perspective, how should we view these incidents? What have we learned from these events?
- If there is to be a near term nuclear resurgence, what are the economic, technological, environmental, and political conditions that must exist to cause it?
- Domestic supplies of nuclear fuel and the industry that processes it have become increasingly international and the U.S. has become increasingly dependent upon foreign sources. How important is it to maintain a domestic nuclear fuel industry and nuclear fuel reserve for national energy security? What should we do to avoid replicating our dependence upon foreign oil?

Panel Chairman:

Robert G. Card, Under Secretary for Energy, Science and Environment

Presentations:

The State of the Commercial Industry

Donald C. Hintz, President, Entergy Corporation, and Chairman, Nuclear Energy Institute

Harnessing Nuclear Technology for the Prosperity and Security of Our Nation

Admiral F.L. Skip Bowman, USN, Director, Naval Nuclear Propulsion, Naval Sea Systems Command

Megatons to Megawatts: Turning Nuclear Warheads into Nuclear Energy

Andrew C. White, President & CEO of General Electric Nuclear Energy

Nuclear Expansion: The Economic, Environmental and Political Challenges

William D. Magwood IV, Director, Office of Nuclear Energy, Science and Technology, Department of Energy

Nuclear Industry Infrastructure

World Market for Nuclear Energy

Alain Bugat, Chairman, French Atomic Energy Commission

12:00 Noon - 1:15 PM — Luncheon and Address

To Serve the Needs Rather than the Fears of Mankind

1:30 - 2:15 PM — Afternoon Keynote Address

Nuclear Science: Implications for Medicine

Dr. Henry N. Wagner, Jr., Professor of Environmental Health Sciences, Bloomberg School of Public Health, and Director of the Division of Radiation Health Services, School of Medicine, The Johns Hopkins University

2:15 - 3:45 PM — Session 3

Controlling Nuclear Material

President Dwight D. Eisenhower's Atoms for Peace program highlighted the crucial role played by international cooperation in strengthening nuclear nonproliferation efforts and enhancing nuclear material control regimes. Despite President Eisenhower's historic initiative, the challenges to international nuclear nonproliferation and nuclear material control have become increasingly complex in the 21st century.

This session offers a historical perspective on the Atoms for Peace program and evaluates its influence on international nuclear nonproliferation efforts. Representatives from the Department of Energy provide insights into current efforts underway to control nuclear materials internationally, and pay particular attention to the department's cooperation with the IAEA. Panelists also provide historical perspective and context. They discuss the future of international nuclear material control and nuclear nonproliferation regimes in light of today's complex challenges and the Atoms for Peace legacy.

Questions to be addressed include:

- What was the impact of Atoms for Peace on nonproliferation efforts?
- What are the future prospects for international nuclear material control?
- What are the main challenges in controlling and accounting for existing fissile material?
- How can the creation of weapons-grade fissile material be preempted and prevented?

Panel Chairman:

Ambassador Linton F. Brooks, Administrator, National Nuclear Security Administration and Under Secretary for Nuclear Security

Presentations:

Controlling and Accounting for Existing Fissile Material, Pre-empting and Preventing the Creation of Weapons-Grade Fissile Material

Paul M. Longworth, Deputy Administrator for Defense Nuclear Nonproliferation, National Nuclear Security Administration

Atoms for Peace and Its Impact on Non Proliferation Efforts

Dr. Lawrence Scheinman, Distinguished Professor, Center for Nonproliferation Studies,
Monterey Institute for International Studies

The Future of International Nuclear Material Control

Ambassador Ronald F. Lehman II, Director, Center for Global Security Research, Lawrence
Livermore National Laboratory

Megatons to Megawatts: Turning Nuclear Warheads into Nuclear Energy

Philip Sewell, Senior Vice President, USEC Inc.

3:45 – 4:00 PM — Break

4:00 - 5:45 PM — Session 4

Energy and Physics: The Horizons of Discovery

Since the “Atoms for Peace” speech, the scope of nuclear physics research has evolved significantly. At that time nuclear physics and what was to become “particle physics” were one field of study. Since then particle or high energy physics has become a distinct, separate scientific field with a focus on understanding the nature of matter and energy, including the fundamental constituents of matter and their interactions. Nuclear physics has continued to study many-body nuclear systems but has expanded its purview, addressing questions such as: how do quarks combine to form nucleons, how do nucleons combine to form the atomic nucleus, and what are the bulk properties and states of nuclear matter. Both nuclear and particle physics are essential to help us understand astrophysics (how cosmic entities like stars and galaxies function) and cosmology (the birth, evolution and fate of the universe).

This session examines the evolution of nuclear and particles physics over the last 50 fifty years and their scientific opportunities for the future.

Questions to be addressed include:

- How have nuclear physics, high energy physics, and astrophysics evolved since 1953?
- What have been the most significant accomplishments in these fields and disciplines?
- What are the most exciting scientific opportunities for the future?
- What are the likely timelines and resource requirements if the full potential inherent in nuclear physics, high energy physics, and astrophysics is to be realized?

Panel Chairman:

Dr. Raymond L. Orbach, Director, Office of Science, Department of Energy

Presentations:

Nature’s Recipe for Nuclear Matter

Dr. T. James Symons, Director, Nuclear Science Division, Lawrence Berkeley National
Laboratory

Superconductivity

Dr. Alexei A. Abrikosov, Argonne Distinguished Scientist, Condensed Matter Theory Group, Materials Science Division, Argonne National Laboratory, and winner of the 2003 Nobel Prize for Physics

Blossoming of the Forces: Matter and Energy

Dr. Jonathan A. Bagger, Krieger-Eisenhower Professor, Department of Physics and Astronomy, Johns Hopkins University

Looking Back in Time: Cosmic Recipe for the Early Universe

Dr. Michael S. Turner, Bruce V. & Diana M. Rauner Distinguished Service Professor, Department of Astronomy and Astrophysics, University of Chicago

6:00 – 7:00 PM — Reception and Exhibitions

7:00 – 9:00 PM — Enrico Fermi Presidential Award Dinner

Secretary of Energy **Spencer Abraham**