

Energy Citations Database: Department of Energy Legacy Information on the Web

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Slide 1 (Introduction by GPO) [For illustrations see PowerPoint presentation]

Slide 2 (Partnership slide)

It is an honor for me to be invited here today to speak again to the Federal Depository Librarians.

For two decades now, the Department of Energy and the Government Printing Office have partnered to ensure the accessibility of information published by the United States Government. Our partnership with GPO is very important to DOE.

In 1996, the partnership began to use electronic media. By 1998, the partnership had become totally electronic. The transformation has happened one step at a time. It continues at a pace limited only by resources.

Today, I will briefly review our progress, and introduce our latest information product, the Energy Citations Database (ECD).

Slide 3 (One Step at a Time)

GPO and DOE partnered together in 1998 to make full-text reports available to Depository Libraries and the public. The Internet information product is called the DOE Information Bridge www.osti.gov/bridge. Today, patrons download approximately 500,000 DOE produced reports from this system annually.

DOE took another step in 1999 with PubSCIENCE www.osti.gov/pubscience which provides cross-publisher searching of abstracts of scientific journal literature in disciplines of concern to the DOE R&D program. Today, librarians can help their patrons access almost 2 million journal citations from some 44 publishers with direct access to the full-text if your library or organization has a subscription.

In 2000, DOE went further to develop its PrePRINT Network www.osti.gov/preprint, a service that provides patrons a searching capability across 6000 preprint sites that deal with scientific disciplines of concern to the DOE R&D program. In essence, the PrePRINT Network takes isolated islands of information and integrates them into one gigantic journal, searchable by every word. By next month, when the PrePRINT Network adds the remaining 2000 preprint sites, it may be considered comprehensive.

Thus, these three public resources provide access to the three types of literature used by scientists to communicate their findings: reports or gray literature, journal literature, and preprints.

Last year, two new public resources were made available. They were an outcome of an interagency collaboration. With Federal R&D Project Summaries www.osti.gov/fedrmd, patrons can use a single search to find R&D projects at the National Institutes of Health, the National Science Foundation, and DOE.

The other resource released last year was Federal GrayLit Network www.osti.gov/graylit, which allows patrons to use a single search to find reports at the Department of Defense, the Environmental Protection Agency, NASA, and DOE.

In one way or another, each of these products advanced the state-of-the art for disseminating information via the web.

Slide 4 (Chart)

These electronic information resources collectively make science more readily accessible and usable. However, there was still a gap to fill with the Department's electronic information resources. Users needed a tool to explore DOE's vast reservoir of historical research. Today, I am here to announce that we have filled that gap with the release of Energy Citations Database www.osti.gov/energycitations.

Slide 5 (ECD Blue Ribbon)

This service incorporates into one place the public releasable records from Nuclear Science Abstracts, Energy Research Abstracts and the Energy Database. A number of depository librarians asked us to produce this web product. With this new resource, decades of discovery that have resulted in great benefits to America are now Web accessible and free to depository libraries and the public through GPO Access.

It is a story of discovery in key areas of science, much of which, but not nearly all, was the product of DOE research and development. ECD covers research related to the DOE R&D program, whether or not that research was actually funded by DOE. It covers much of physics and chemistry, and parts of geology, biology, and most of nuclear medicine. Our information program goes beyond DOE-funded research. The purpose of the government support for research is not to

support researchers. Rather, the purpose of the research is to advance key disciplines of science. Government devotes \$80 billion per year to this effort, about 10% of which is at DOE.

Let's step back in time and take a closer look at the discovery covered by ECD.

Slide 6 (1940s)

Splitting the uranium atom—fission—had been discovered and the possibilities appeared to be important for war. President Roosevelt formally authorized the Manhattan Project to manage the development of the atomic bomb, with the goal of ending the war. Secretly, Enrico Fermi and his colleagues achieved a self-sustaining nuclear chain reaction on December 2, 1942. This event altered the course of history.

Slide 7 (Full-text)

The new science went on to end World War II. The world suddenly became aware of a completely new and largely unexpected technology. Congress and the President then established the Atomic Energy Commission in 1946 to foster and control the peacetime development of atomic science and technology. One year later, the AEC created its technical information program, establishing the Office of Scientific and Technical Information we have today. Over 10,000 records in the Energy Citations Database capture the scientific progress from the '40s.

Slide 8 (1950s)

After World War II, the AEC became an important player in the Cold War. National defense was AEC's primary goal. Huge wartime facilities created to build the bomb became today's system of National Laboratories. Peace among the super powers was maintained, albeit an uneasy peace.

In addition, President Eisenhower presented his "Atoms for Peace" plan. During the 1950s, AEC began major efforts to commercialize nuclear power. Today, the Nation obtains 20% of its electricity from nuclear power plants.

Applications to medicine were also developed, creating a whole new discipline: nuclear medicine. Today, 200 million nuclear medicine procedures are performed each year.

In Energy Citations Database, 55,000 records capture the progress of the 1950s.

Slide 9 (1960s)

Research in the 1960s produced more benefits for America, some unexpected. For example, the work of a DOE sponsored physicist to analyze the tracks of particles in accelerators turned out to have application in the next decade to medical imaging. For this work, Alan Cormack won the Nobel Prize in medicine, not physics. Today, we have CAT scans and MRI scans, and medical diagnoses are infinitely improved.

Man began to explore space beyond earth orbits and send vehicles past other planets. Such exploration was, and remains,

possible only with electricity generators powered by radioisotopes. Interplanetary exploration would be impossible without the technology developed by DOE in the 1960s. 413,000 records capture the scientific and technological progress in the 1960s.

Slide 10 (1970s)

The decade of the 1970s brought attention to the Nation's energy needs as never before. The mission of the Atomic Energy Commission was found to be too narrow. The Nation needed to also consider non-nuclear power sources. Thus, the AEC eventually evolved into the Department of Energy. Research was begun on ways to burn coal cleanly, and, today, power plants emit only a tiny fraction of the pollutants they once emitted to produce a unit of electric power.

New efforts were also launched to encourage energy efficiency.

Today, we have options for more efficient lighting, windows that insulate better, and more efficient appliances. 580,000 records capture the scientific and technological progress in the 1970s.

Slide 11 (1980s)

By the 1980s, focus of the defense program changed from making weapons to cleaning up the old manufacturing sites. Today, considerable progress has been made.

In one of its boldest moves, DOE launched a program in 1986 to map the human genome. DOE was soon joined by NIH and private sector companies, and the genome map was completed last year. There is great hope that tremendous progress in human health will follow. This is the story of so much of basic research. It is begun without a precise knowledge of the outcome, but experience shows huge benefits often accrue over time.

The Energy Citations Database has 597,000 records from the '80s.

Slide 12 (1990s)

DOE conducted intensive research in materials, chemistry, geology, advanced computing, high energy and nuclear physics, fusion energy, global climate, the human genome, clean coal, opportunities to capture solar energy and improve conservation, and many more topics. If history is any guide, benefits that improve the economy and improve people's lives from this research will become manifest in the future. Already, numerous scientific advances have been widely recognized. DOE-affiliated researchers have won 73 Nobel prizes.

The Energy Citations Database has 420,000 records from the '90s.

Slide 13 (Today)

DOE is the third largest sponsor of basic research. Research at DOE Laboratories continues to explore the mysteries of the natural world. DOE leads the nation in its support for the physical sciences, and is a significant contributor in the

biological sciences. DOE has won more R&D 100 Awards than any other organization, and twice as many as all other Federal agencies combined.

Today is all about gene expression, nanotechnology, advanced computing, climate change, a next-generation neutron scattering facility, and exciting research being done at 26 major laboratories and hundreds of universities. What DOE is doing today promises a better tomorrow.

And we still have more to do for the research information consumer. One of the things we are currently working on is an interagency alliance of science agencies. The goal is to have information resources which do not require that a patron know in advance which agency is doing what. We believe that few people seeking scientific and technical information are all that interested in the government organization chart. I hope that I can meet with the depository library community next year to announce another state of the art information product.

Thank you for giving me your attention. And thank you, GPO, for helping to make these resources available. I would be pleased to answer questions. Thank you.