OSTI, not just another Oak Ridge acronym, Part 2

By: D. Ray Smith | *Historically Speaking* | The Oak Ridger | September 18, 2007

Last week's column introduced the Office of Scientific and Technical Information and presented some facts about the global nature of its knowledge-sharing initiatives. We also saw some of the early and intriguing background that is the history of OSTI.

This week we pick up the story at the transition from the Army's Manhattan Project to civilian control of atomic energy under the Atomic Energy Commission. We will also explore how the need to share atomic energy research information created the forerunner organization that is today's OSTI.

Today, September 18, 2007, OSTI is celebrating its 60th anniversary. Planned are special activities at the OSTI location during the day and a free community lecture event open to the public at the American Museum of Science and Energy beginning at 7 in the evening.

Please make your plans to enjoy the evening event. You will be glad you did and will learn from Dr. Eugene Garfield, who will present “Standing on the Shoulders of Giants — Tracing the Impacts of Information Retrieval System on Science Policy.” Garfield is founding publisher/editor of The Scientist.

Now, let's get back to the history of OSTI.

While all the effort by the Army was beginning to establish a method and organization to capture the scientific information created during the Manhattan Project, the Atomic Energy Act or the McMahon Act, was signed by President Harry S. Truman on Aug. 1, 1946. This act transferred the control of atomic energy from the military to the newly formed Atomic Energy Commission, headed by David Lilienthal, and by the end of 1946 the actual transfer of responsibility took place.

The AEC, in January 1947, began to formalize the organization to manage the overall collection, arrangement and publication of the National Nuclear Energy Series. Major Alberto F. Thompson Jr. was named to direct that effort as well as the larger operation of providing scientific and technical information to the public — see the beginning of OSTI here?

From this small yet vitally important beginning, the organization now known as OSTI has met the nation and the world's requests for scientific and technical information generated within the agency known first as the US Atomic Energy Commission and today as the Department of Energy. Additionally, they have maintained the lead in all technological advances in research information management, dissemination, publication and access.

Well before the arrival of this amazing information dissemination tool we know as the Internet, OSTI made research information broadly available to advance scientific discovery. In 1948 they began an almost 30-year production of the world-famous Nuclear Science Abstracts, which greatly expanded access to nuclear science information.

At the Atoms for Peace Geneva Conferences, in 1955 and again in 1958, resulting from the initiative by President Dwight D. Eisenhower begun on Dec. 8, 1953, 25 tons of materials were printed, packaged and shipped out of the prolific operation in a warehouse on the east end of Oak Ridge. Oak Ridge was becoming the source of an enormous federal printing operation and huge shipments routinely left for all parts of our nation and many other locations around the world.

Atoms for Peace also resulted in the accessibility of nuclear science information to U.S. industry. It created the exchange of information and drafting of an organizational structure that would establish the International Atomic Energy Agency — all of which meant increased publication and distribution of materials out of the Oak Ridge workhorse organization for the AEC.

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In this photo taken in 1955, preparations are being made to ship 25 tons of materials to the Atoms for Peace conference

In the mid-1960s, a major change took place in the organization now known as OSTI. Computers began to be used to store and exchange information. Soon rapid and dependable information searches were beginning to be realized. The ability to provide access to research information began to increase exponentially. New innovations in information storage and retrieval grew by leaps and bounds.

Over the years things got quieter in the warehouse where for so many years a huge printing and publication operation had hummed along. Now electrons were doing the work of presses. People were no longer creating card files and index systems on paper; the computer was taking on such tasks.

Not only the hardware but the software aspect of the revolution may be even more amazing. OSTI leads the world in so many areas of computer data management and access.

The International Nuclear Information System, established in 1969 through the leadership of OSTI, exists to foster the exchange of scientific and technical information on peaceful uses of atomic energy, and

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promotes nuclear information exchange between 110 countries. OSTI annually responded to upwards of 50,000 requests for information and, during the 1977 “energy crisis,” fielded more than 150,000 requests. OSTI was beginning to reach across the world.

During the 1980s, OSTI was instrumental in establishing the International Energy Technology Data Exchange, an implementing agreement for sharing non-nuclear energy information which now has 16 member countries. The worldwide impact of OSTI was expanding and growing.

OSTI's original and core mission, “to collect, preserve, and disseminate scientific and technical information,” remains today. The methods have changed through innovative forward-thinking leadership. Such creative approaches as defining new electronic exchange formats, creating collections of digitized scientific and technical information, serving researchers directly, and developing an energy science and technology virtual library have firmly established OSTI as both a national and an international leader in the information age.

The first Department of Energy home page Web site was created by OSTI in 1994, and in 1996 OSTI entered the Internet era by creating online access to scientific report literature. In 1997 an award-winning virtual library of over 500 collections of scientific and technical information was made available online. OSTI was leading the DOE into the information age.

In 1998, a Web access tool, “Information Bridge,” was introduced that was the first system to provide searchable full-text records of DOE-sponsored research report literature. OSTI was making significant Internet search capability advances.

In August 2000, online access to over 340,000 full-text technical reports from various federal agencies was added. In 2001, Energy Citations Database was launched, providing bibliographic citations for DOE energy and energy-related research from 1948 to the present.

In December 2002 the interagency Science.gov was launched and is hosted at OSTI. Science.gov provided for the first time single query search across the governments vast amount of scientific and technical information.

In May 2004, science.gov 2.0 was launched, introducing relevancy ranked searching to government science Web information. In addition, OSTI opened government databases

In June 2006, OSTI introduced the concept of an international science gateway, which would draw on the success of Science.gov and the Energy Technology Data Exchange to expand distributed searching of science resources, building a one-stop "shopping source" for worldwide science information.

In April 2007, OSTI introduced scalability in federated government search through the development of the initial version of the Science Accelerator. The Science Accelerator demonstrates the capabilities that will eventually yield the technology to search at least 1,000 scientific databases in parallel.

In June, 2007, DOE and the British Library, along with eight other participating countries, opened a searchable online global access to science information from 15 international sources. WorldWideScience.org provides search capability on a global scale and gives citizens, researchers and anyone interested in science the capability to search science databases not accessible through Yahoo! and Google. WorldWideScience.org was developed and is maintained by OSTI.

Today, OSTI is nationally recognized for contributions to the sharing and exchange of science information, specifically through a suite of web tools and services designed to deliver science information to desktops everywhere. OSTI is a leader in the information revolution.

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According to Sharon Jordan, assistant director, Office of Program Integration for OSTI, and program manager for Science.gov, a statement made at a recent workshop hosted by OSTI says it best: “Sharing knowledge advances science and technology. Accelerating the sharing of knowledge accelerates the advancement of science and technology.” This represents OSTI's view of the future.

At the beginning of the first part of this two-part series, I asked the question, “What are TID(ORO), TID(ORE), TIS(OR), TISE, OTIE, DTIE, TIC, and OSTI?” The answer to the question: these are all acronyms that have been used for the Office of Scientific and Technical Information over the years.

I hope you will agree with me that OSTI is much more than just another Oak Ridge acronym! OSTI is truly one of Oak Ridge's world-impacting organizations.

Thanks to Linda Ponce, Cathey Daniels, and Patty Simmons for all their help with these articles.