

# OSTI, not just another Oak Ridge acronym, Part 1

By: D. Ray Smith | *Historically Speaking* | The Oak Ridger | September 11, 2007

What are TID(ORO), TID(ORE), TIS(OR), TISE, OTIE, DTIE, TIC, and OSTI?

I will answer that question later in this series.

This is the first of a series of articles about the history of a local and little-known jewel in Oak Ridge that is well known both nationally and internationally.

I am continually amazed at the world-impacting activities conducted right here in Oak Ridge with little local fanfare but with great global significance. Are we just accustomed to “doing our job” without expecting notoriety or acclaim? Or are we just so used to seeing billion-dollar budgets and world record-setting activities (note the SNS world record shattering level of beam power of 183 kilowatts recently attained) that we are not very impressed even when the accomplishments are astounding?

My goal with this column is to provide readers with some very basic information about a highly technical and elite function in Oak Ridge - the Office of Scientific and Technical Information.

It had its origin under Col. Kenneth D. Nichols' direction during the Manhattan Project era, when Gen. Leslie R. Groves ordered all atomic bomb research to be kept in a central file. This led Nichols to create the staff function here in Oak Ridge. However, the official beginning of the organization is traced to 1947 when the Atomic Energy Commission was created, transferring responsibility for atomic energy from the military to civilian leadership.

First known as the Technical Information Division, it has grown exponentially in capability over the years. As it celebrates its 60th anniversary on Sept. 18, this local organization is among today's world leaders in providing ready access to scientific and technical research data. Yet we in Oak Ridge may be guilty of thinking of it in terms of “just another Oak Ridge acronym.”

The Office of Scientific and Technical Information, or OSTI, located at 1 Science.gov Way in Oak Ridge, is the nation's repository for the Department of Energy's science information, but it is also so much more. Today, because of OSTI, much of the existing scientific and technical information is readily available online to anyone who does research.

Did you know that John Mauchly's epiphany in the 1930s, when seeing a screw-in electrical fuse with a neon light indicator to show which fuse was blown, led to the “on or off” state of electronic binary computations — literally the basis for all computers? I learned that on the OSTI.gov Web site.

Even more in-depth materials are available for those qualified individuals or organizations with a need to know and proper authorization. But by far the most interesting aspect of OSTI is the continuing advances they are making in online information searches and new advanced Web tools, such as relevancy ranking of search results from the “Deep Web” (that portion of the Internet that is NOT accessible through Google or Yahoo! search engines but contains the majority of the truly scientific research results).

Over the years, OSTI has grown from a small Manhattan Project-era technical information center to a world renowned scientific and technical information resource. It is a member of CENDI (Commerce, Energy, NASA, Defense Information Managers Group) established in the early 1960s to coordinate the management of the results from the U.S. government's increasing commitment to scientific research and technology development.

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CENDI consists of 13 agencies (including the U.S. departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, and Interior as well as the Environmental Protection Agency, Government Printing Office, Library of Congress, NASA, National Archives and National Science Foundation) constituting 96 percent of all U.S. government science and technology funding.

As an aside, please note that our own Bonnie C. Carroll of Information International Associates, Inc. is the executive director of the CENDI Secretariat. Bonnie, also one of Oak Ridge's treasures, is constantly engaged in far-reaching initiatives with global impact. Her "Ila" is, like OSTI, truly more than "just another Oak Ridge acronym!" See <http://www.iiaweb.com/> to learn of the world-class reputation Bonnie's company has achieved.

Not only is OSTI a member of CENDI representing the Department of Energy, it is also the host for the unique Web search site Science.gov (our nation's scientific information) and also the new WorldWideScience.org (global scientific information) launched at the International Council for Scientific and Technical Information Annual General Assembly on June 22, 2007, in Nancy, France.

OSTI is truly a jewel in our nation's crown, and its value for research is beyond comprehension. Even so, we in Oak Ridge may just take OSTI for granted. OSTI is widely known internationally as "best in class" for all areas of information storage and retrieval. Oak Ridge's premiere Web hosting and online search system has a presence in all of the world's populated continents. OSTI is literally used by essentially all researchers in one way or another.

So where did it all begin? Well, when World War II ended the information about the atomic bomb that had been a closely guarded secret was looked at with a fresh eye to see what peacetime use could be made of the information gained during this historic industrial and military joint effort.



Office of Scientific and Technical Information at 1 Science.gov Way  
effort — an example of Groves' insight.

On Aug. 12, 1945, just six days after the dropping of the first atomic bomb leading to the end of World War II, "A General Account of the Development of Methods of Using Atomic Energy for Military Purposes Under the Auspices of the United States Government, 1940-1945" by Henry DeWolf Smyth, "written at the request of Maj. Gen. L. R. Groves, U.S.A." was published. How do you suppose that publication was prepared and the need to publish that information anticipated? Gen. Groves brought Dr. Smyth, a Princeton University physicist, into the Manhattan Project for the express purpose of documenting the

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The publication caused as many questions as it answered, and requests for further information came flowing into the Manhattan Project. Additionally, the press releases created by George O. Robinson and released on Aug. 6, 1945, created an enormous amount of inquiries.

On Nov. 29, 1945, the memorandum “Scientific Records of Manhattan District Research,” signed by Col. Nichols, directed all area engineers to bring together into one central file all relevant classified and unclassified information related to wartime atomic bomb research. This action seems to me to have created the genesis of what has come to be OSTI. Nichols realized the vast amount of information that had been created during the Manhattan Project and the need to capture it as quickly as possible for future reference — an example of Nichols' insight.

The memorandum also stated that the Manhattan District Research Division was making plans for a complete and authoritative scientific record of all research work performed by Manhattan District contractors. The original name for the product was to be the Manhattan Project Technical Series, but ultimately and eventually the famous collection of books was titled the National Nuclear Energy Series. OSTI has this collection in its archives.

The earliest mission statement I could find for the forerunner organizations to OSTI was “to plan, develop, maintain, and administer all services and facilities required to accomplish the dissemination of scientific and technical information for the encouragement of scientific progress and to program the ultimate sharing on a reciprocal basis of information concerning the practical industrial application of atomic energy, as provided in the Atomic Energy Act of 1946.”

OSTI's mission today is “to advance science and sustain technological creativity by making Research and Development findings available and useful to Department of Energy researchers and the American people.”

The best way to show the vision of OSTI may be through a corollary. An accepted fact: science progresses only if knowledge is shared. OSTI corollary: Speeding the sharing of knowledge will accelerate the advancement of science. With 4.5 million downloads per year and growing, and a projected 80 million knowledge transactions in Fiscal Year '07, OSTI is doing just that!

On Tuesday, Sept. 18, the 60th anniversary of OSTI will be celebrated. There will be special events at OSTI during the day and a free community lecture at the American Museum of Science and Energy at 7 p.m. during the evening.

Please make plans to attend the evening event. Eugene Garfield 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*.

The second part of this article will complete my research into the history of OSTI and will feature the amazing and innovative global nature of its work. It will also give you a glimpse of the terrific accomplishments anticipated in OSTI's future.