Meet Kenneth D. Nichols, the Father of Oak Ridge - THE ROAD TO TRINITY

(As published in The Oak Ridger's Historically Speaking column the week of May 5, 2025)

Barbara Scollin, grandniece of Major General Kenneth D. Nichols continues her series on his life.

***

Ample reasons, most notably leadership skills, personality traits and qualifications, led to choosing General (then Colonel) Kenneth D. Nichols as Deputy District Engineer and subsequently as District Engineer of the Manhattan Engineer District (MED). In this capacity he had supervision of the research and development connected with, and the design, construction and operation of all plants required for the production of plutonium and uranium-235, including the construction of the towns of Oak Ridge, Tennessee, and Richland, Washington.

The responsibility of his position was massive as he oversaw a workforce of both military and civilian personnel of approximately 125,000; his Oak Ridge office became the center of the wartime atomic energy's activities. He also was responsible for internal security operations in the production facilities that helped keep the development of the atomic bomb secret.

In this eighteenth installment of several articles covering the life and accomplishments of Kenneth D. Nichols, we learn of the culmination of his and approximately 130,000 men and women's work, for 3 years, in secret, to make possible the successful testing of the first Atomic Bomb at Trinity, July 16, 1945.

By mid-1944, successful landing at Normandy and incoming intelligence reports indicated Germany had not successfully developed an atomic bomb. Nichols recalled, "We hoped to defeat Germany before August 1945. ...Because of the time factor, prospects for use of the bomb against Germany were now remote, but Japan still remained a furious enemy."

Soon after, General Groves moved up the timetable to August 1, 1945, for production material delivery to Los Alamos. Colonel Kenneth Nichols said this, "was optimistic and would require an overwhelming effort and considerable good luck to accomplish." Three plants operating simultaneously, and other responsibilities were understandably putting pressure on Nichols.

He recalls, "I was not yet aware of how much the demands on me would increase … as pressures were applied to complete the bomb at the earliest possible date. . . . As the momentum increased, the sheer volume of my work accelerated, and the problems I faced became more and more complex. Moreover, the work required more frequent travel from one project location to another to expedite decisions and the work."

Events happened in quick succession: Hanford Engineer Works (HEW) shipped the entire experimental order to Los Alamos by May 2, 1945. The German High Command surrendered unconditionally on May 7th. On May 31st and June 1st, Stimson's Interim Committee met to discuss the use of the bomb, the future of the Manhattan Project, continued research of atomic energy and international control. Clinton Engineer Works (CEW) shipped uranium test material in June.

Then Nick faced a personal crisis. Called to meet Groves in Washington on June 5th, 1945, Nichols recalls, "We met alone. He started off rather enigmatically: 'I have tied it up.' That startled me, since I had never before heard him admit any error.

"He then went on to explain that on the 4th, Somervell had called him and asked if I could be transferred to a very important job that would call for an immediate promotion to brigadier general. Groves rather ruefully told me that he promptly responded, 'You can't have him.' At that, Somervell replied, 'Who do you think you are to tell me I can't have any engineer officer I want? Orders will be issued today.' …

Meet Kenneth D. Nichols, the Father of Oak Ridge - THE ROAD TO TRINITY

(As published in The Oak Ridger's Historically Speaking column the week of May 5, 2025)

"Groves again acknowledged he had made a mistake, saying, 'I never should have told General Somervell that he could not have you.'"

Nichols followed up by meeting with Maj General Clinton F. Robinson at the Pentagon. Robbie wanted out of the Pentagon to get field experience in the Pacific Theatre and was a good friend from Nicaraguan days (see 2nd article) and Cornell University (see 3rd article). Robbie suggested to Somervell that Nick replace him.

Nick explains what happened next: "Robbie had heard that considerable doubt existed in the minds of some very important people about the chances of success for the Manhattan Project. As a result, he felt he was doing me a favor by getting me out of the project.

"He knew I had signed most of the contracts and was responsible not for only the administration but also for many of the technical decisions and thus would be likely to get much of the blame for a failure. He said, 'Let 'Goo Goo' Groves take the blame all by himself.'"

Groves' request to General George Marshall to revoke the orders was not successful. But Lt General Somervell did agree to postpone Nichols' re-assignment to autumn.

Testing of the plutonium bomb was planned for early July by Oppenheimer. Groves and Nichols discussed who should be present at the Trinity test. Nichols recalls, "He said if I went, too many people would figure where I was going. . .. 'If you go, they'll know for sure what it is. People are trying to find out how close we are.'

"Groves never told me I could not go. In going over the list with me in early July of who shall be included, he began to worry about the number of individuals who were planning to go 'fishing'. He told me he feared that if Matthias and I went to Trinity, it might alert too many people at the CEW and the HEW about what was taking place. The leak might endanger security, not to mention creating even more requests from people wanting to attend. I agreed not to go, thereby eliminating the prospects of many key men."

In an attempt to gain dramatic effect, the recent movie *Oppenheimer* portrays scientists and other Trinity observers worried that the Earth's atmosphere might ignite. In fact, the excitement and extreme tension was driven by whether or not an atomic explosion was even achievable. Nichols recalled in his book *The Road to Trinity, A Personal Account of How America's Nuclear Policies Were Made* at page 156, *"*early in the program, Oppenheimer discussed the possibility that a fission bomb might ignite the atmosphere.

"But that fear soon was laid to rest.*"* The Trinity test was a test of the plutonium implosion-type bomb. After three years work by over 130,000 people and $2.2B (~$39B in 2025) spent, uncertainty hung in the balance. Nichols said, "at that time we decided to test plutonium because we weren't as certain it would work. . . . We were certain U-235 would work and did not need testing. We didn't have enough 235 to test it."

When the July 16th Trinity test was complete, Groves informed Secretary of War Stimson that it was successful; he then followed up on July 18th with an uncharacteristic exuberant report. Stimson immediately informed President Truman on the 16th who in turn informed Prime Minister Churchill. Nichols was notified by both Dr. Stafford Warren and General Groves.

Groves personally called and sent a letter to Nichols marked "SECRET---destroy after reading" that stated in part, "[The test] was a far greater success than anyone had anticipated … everything we had hoped for was proven insofar as the test at New Mexico permitted. … I hope that it will not be too long before I can properly handle the question of recognition of certain people who are so responsible for our success, particularly yourself."

Meet Kenneth D. Nichols, the Father of Oak Ridge - THE ROAD TO TRINITY

(As published in The Oak Ridger's Historically Speaking column the week of May 5, 2025)

On July 24th, the Combined Chiefs of Staff met with Churchill and Truman who approved the November 1, 1945, invasion of Kyushu. On July 25th, Stimson and Marshall approved operational orders for the first atomic bomb drop. The Potsdam Proclamation called on the Japanese government to unconditionally surrender else "prompt and utter destruction" would be forthcoming. On July 29th Japan broadcast that the government would ignore the proclamation and continue war.

At this time, Nichols recalled, "I was … directly involved in responding to the unrest of the scientists at the Met Lab. I had several discussions with Groves and Dr. James B. Conant about the issues the scientists were raising, and in particular about moral aspects of the radiation effects of the bomb.

"From the standpoint of morality, the three of us could see little difference in death by radiation as compared to death by heat or blast. All three can be lethal and would vary depending on the magnitude of the bomb and the height of the burst. A low height of burst would increase radiation effects by increasing the amount of the duration of the residual radiation.

In contrast, a greater and optimum height could be calculated for maximum blast effect and a corresponding maximum area of destruction. For optimum height, it was estimated that radiation would be lethal for a radius of about two thirds of a mile, while the blast effect would cover a larger area. However, even with the best of calculations, we could not be certain of the actual energy release that would be achieved by either of the two types of bombs."

And,

"As a result of the [Trinity] test results, Groves and the Air Force planning group decided that the atomic bomb should be detonated at 2000' over the Japanese cities to minimize residual radiation on the ground. But, as I have already noted, few of the military and scientific leaders directly involved with building the bomb and also responsible for the decision to use it questioned the ethics or morality of dropping the weapon just because it created radiation.

"The purpose of the bomb was to destroy cities, to kill Japanese, and to destroy the Japanese will to continue the war. So long as mass killing was considered necessary it should not make any material difference whether people died from the blast, the heat, and the fires created, or the radiation. War itself is horrible. We wanted to end the war as quickly as possible and minimize the overall casualties, particularly for Americans; at that time we all remembered Pearl Harbor."

We still remember Pearl Harbor and thank everyone who worked and lived at Los Alamos and their families for their tireless, miraculous work and sacrifices during World War II.

Next up: Atom Bomb Day

Grateful acknowledgements to K. David Nichols, Jr.; Ray Smith; Sandy Fye; Dr. Bianka J. Adams, Alisa Whitley, Douglas J. Wilson and the U.S. Army Corps of Engineers Office of History; Emily (Westcott) and Don Hunnicutt; Michael Stallo and the staff at the Oak Ridge Public Library; Diane Gulley; Gerald A. Potts; and Bruce W. Scollin for their assistance with this article.

***

Thanks for this Historically Speaking column and the series goes to Barbara Rogers Scollin, grandniece of General Kenneth D. Nichols.

Another article by Barbara on General Nichols, SUNDAY PUNCH, K-25 WORKERS GO ABOVE THEIR LINE OF DUTY, was published in The Oak Ridger's Historically Speaking column during the week of

Meet Kenneth D. Nichols, the Father of Oak Ridge - THE ROAD TO TRINITY

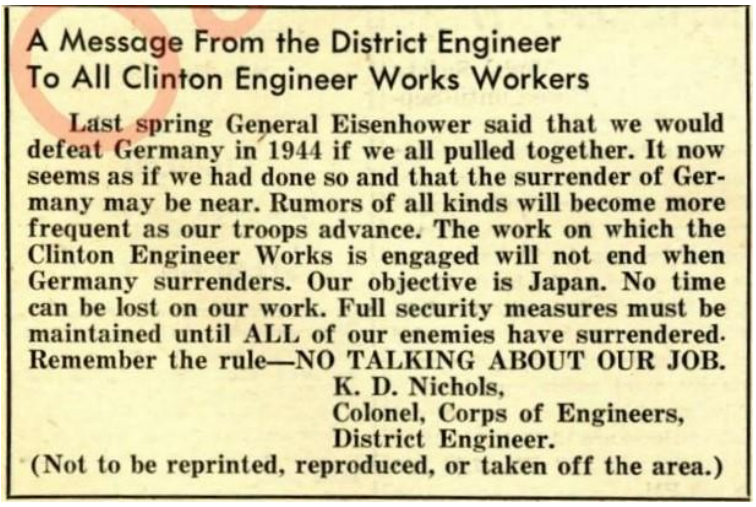
(As published in The Oak Ridger's Historically Speaking column the week of May 5, 2025)

August 28, 2023 and can be accessed here. https://smithdray1.net/historicallyspeaking/2023/8-28-2023%20SUNDAY%20PUNCH.pdf

Colonel Kenneth D. Nichols, District Engineer. Dedication of a B-25 Billy Mitchell bomber, SUNDAY PUNCH. Knoxville Airport TN, March 18, 1945. Photo by Ed Westcott. (Courtesy of the National Museum of Nuclear Science & History, and, The Oak Ridge History Museum)

Meet Kenneth D. Nichols, the Father of Oak Ridge - THE ROAD TO TRINITY

(As published in The Oak Ridger's Historically Speaking column the week of May 5, 2025)



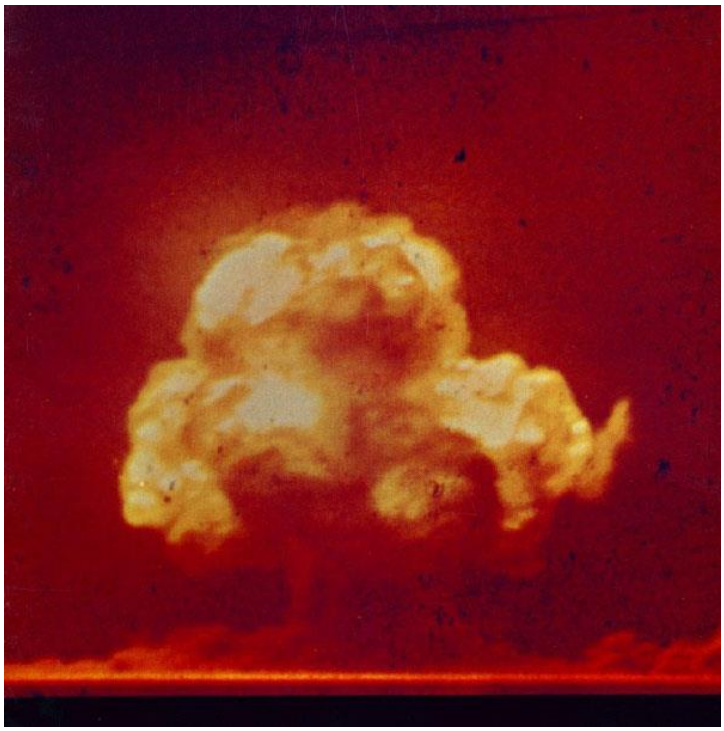
A Message From the District Engineer
To All Clinton Engineer Works Workers

Last spring General Eisenhower said that we would defeat Germany in 1944 if we all pulled together. It now seems as if we had done so and that the surrender of Germany may be near. Rumors of all kinds will become more frequent as our troops advance. The work on which the Clinton Engineer Works is engaged will not end when Germany surrenders. Our objective is Japan. No time can be lost on our work. Full security measures must be maintained until ALL of our enemies have surrendered. Remember the rule—NO TALKING ABOUT OUR JOB.

K. D. Nichols,
Colonel, Corps of Engineers,
District Engineer.

(Not to be reprinted, reproduced, or taken off the area.)

Colonel K.D. Nichols encourages all CEW Workers to stay the course until both Germany and Japan surrender. The Oak Ridge Journal, September 7, 1944 (Courtesy of the Oak Ridge Public Library)



The atomic explosion at Trinity, July 16, 1945. (Courtesy of DOE)