

Meet Kenneth D. Nichols, the Father of Oak Ridge Manhattan Engineer District Formation

(As published in The Oak Ridger's Historically Speaking column the week of October 14, 2024)

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 to produce plutonium-239 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 fifth installment of several articles covering the life and accomplishments of Kenneth D. Nichols, we learn of his early work with General (then Colonel) James C. Marshall, the S-1 Committee, and the Manhattan Engineer District that reflects his unique leadership skills in a quickly changing environment.

1939 found Captain Kenneth D. Nichols looking forward to commanding combat engineer troops as soon as war broke out. But Colonel James C. Marshall intervened. Marshall had been one of Nick's West Point instructors and Marshall "thought greatly of him".

As District Engineer in charge of most military construction in New York state and Pennsylvania, Marshall requested Nichols handle all construction for the new Rome, NY, Air Depot, a military airport servicing the Air Corps. Promised no interference from Marshall, full authority, choice of personnel and a \$25 million budget (~\$550M in 2024), Nick agreed. It would be his first construction assignment and the first time other officers were reporting to him.

As Area Engineer and (just promoted to) Lieutenant Colonel, Nichols started 'from scratch' acquiring the land, determining design and hiring construction contractors. Politics entered the picture too. He remembers, "We had to get along with the town and newspapers. In other words, you had the problem of meeting all the objections of people and handling the Congressmen that wanted to investigate it."

Soon, Marshall expanded Nichols' responsibilities, "... later when after the war started the district got the [construction of a new TNT plant, the] Pennsylvania Ordnance Works [in White Deer Creek Valley in Northern Pennsylvania] and Marshall wanted me on it. He said 'You take over the Pennsylvania Ordnance Works, also handle the Rome Air Depot, and eventually I will try to get somebody for the Rome Air Depot because it's well on its way, and you start the Pennsylvania Ordnance Works. You started one project, and here's another one you start from scratch'. ... I was running both, commuting back and forth."

Nichols was promoted to Major in October 1941. Already working quickly to build the air depot when war was declared by America in December 1941, he was told to "expedite it". Simultaneously Colonel Leslie Groves came back into the picture. Nick recalls, "I'll always remember a piece of advice he gave me. He said, 'Now remember, on this one [the TNT ordnance work] the designs are complete.' In other words, ...if you have people that know what the hell they're doing, don't interfere with them. But again, you had to handle all the problems."

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Supervising construction and procurement of materials, Nichols worked with Groves as well as Stone and Webster (construction contractors) and DuPont (designers). This team was critical in the upcoming Manhattan Project.

In less than three months, Marshall contacted Nichols yet again. The rapid chain of events follows: President Franklin D. Roosevelt approved Dr. Vannevar Bush and Dr. James B. Conant's report of recommendations to the Policy Committee on June 17, 1942. (The Policy Committee members were Vice President Wallace, Secretary of War Stimson and Army Chief of Staff General George C. Marshall.)

Colonel Marshall met June 18th with Major General Styer, Deputy to General Somerville, head of the Army Service Forces. At the meeting Colonel Marshall received the Bush/Conant report containing the conclusion that the Army should take over responsibility of construction of facilities to produce uranium and plutonium for atomic weapons.

Colonel Marshall then contacted Nichols on June 19th, and they met shortly thereafter and said, "I've just been assigned a new technical project. It's very, very important. It'd be a development project that may end the war... Nick, I am giving you fifteen seconds to volunteer for a very important technical project, or be drafted... With volunteering settled, Marshall handed me a large envelope that contained most of the top secret information he knew about the new project."

Soon Nichols recalls, "Marshall and I met at the Office of Scientific Research and Development (OSRD) with the S-1 executive committee, Vannevar Bush and General Styer. After listening to members of this distinguished committee (three of them were Nobel Laureates) outline the status and scope of the proposed atomic development program – and the significance of winning or losing the race with Germany – I quickly realized that working with these men on such an important project was a unique opportunity. I had volunteered properly."

Nichols describes the reasons behind the selection of Marshall and, in turn, Marshall selecting him: "The Chief of Engineers selected Colonel Marshall to direct the construction intended to make the bomb a reality because of his fine reputation and his previous construction experience, which included a good track record for starting projects. As he had demonstrated to me in beginning the Rome Air Depot and then Pennsylvania Ordnance Works, Marshall was a great organizer who delegated both authority and responsibility well. He also was an astute judge of personnel. He would have to summon these skills promptly, since he did not have the luxury of time or the facts available to plan the entire operation before beginning the construction phase. This is where matters stood when he brought me into the picture."

And,

"The reason he selected me I think was because I had a Ph.D. and he talked Styer into the idea that he needed somebody with my background, with a technical background, to handle the scientists. And Styer agreed that for one year I would be available. In other words, you have to find out from the scientists what the hell they wanted – thought they wanted - to build. We knew that the job was to translate their desires to an architect engineer and engineering outfit to design and construct the plants... Another officer would not have had [the status a Ph.D. gave]. Some [military officers] get along fine even though they don't have a Ph.D., but many officers tangle with them. Scientists are difficult people to work with."

Marshall and Nichols worked together on the BIG issues for what would be named the Manhattan Project:

- Funding;
- Administration;
- Prioritization of work;

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- Procuring materials from around the world;
- Visiting sites vetted by the S-1 committee for production plants; and,
- Locating headquarters in New York City (hence the name 'Manhattan').

They chose Stone & Webster to be the overall contractor because Nichols had worked with them in New York. Bush and Styer laid all the groundwork to obtain AAA priority. (Colonel Groves completed obtaining authority.) Nichols recalls, "When we first got into the business, the scientists thought they were all ready to go. We found they were not. We engaged Stone and Webster to make an initial engineering study, to where we have an engineering force to appraise some of these ideas. We soon found there was nothing ready to go. That although the report to the President [FDR] was, we were ready to build plants, [in reality] we were still some ways away from it."

Of particular interest to Oak Ridgers – Marshall, Nichols and Colonel Blair spent 3 days in Tennessee, July 1 – 3, 1942, accompanied by TVA's Colonel Parker and Stone & Webster's representative August Klein. They viewed the Elza site of 26,000 acres and chose it as the best site for production needs. The S-1 committee approved their choice on July 30, 1942. Marshall named the new area Oak Ridge. (This comes from Colonel James C. Marshall's interview on November 4, 1965, by Stephane Groueff, which is in the Atomic Heritage Foundation's *Voices of the Manhattan Project*: <https://ahf.nuclearmuseum.org/voices/oral-histories/colonel-james-c-marshalls-interview/> Ray)

On July 6th they met with Dr. Arthur Compton at the Metallurgical Lab at the University of Chicago. Nichols saw the overcrowding there; on his own initiative he established a new experimental site in the Argonne Forest (Argonne National Laboratory).

Marshall presented Groves, acting in concert with the Chief of Engineers, a general order draft dated August 11, 1942, that formed a new district they decided to call the Manhattan Engineering District (MED). Marshall was the 1st, Virginia Olsson, his secretary, the 2nd, and Nichols the 3rd government employee to sign on to the MED.

The Chief of Engineers issued Order No. 33 on August 13, 1942, establishing the military district without territorial limits to supervise projects assigned to it by the Chief of Engineers. The MED was tasked with quickly building four production plants to separate uranium and produce plutonium. Marshall served as the original District Engineer with Nichols as Deputy District Engineer, forming a lifelong friendship.

As indicated in the organizational chart, the MED was quite organized by early 1943 thanks to Marshall and Nichols.

Next up: The Manhattan Project, Early Steps

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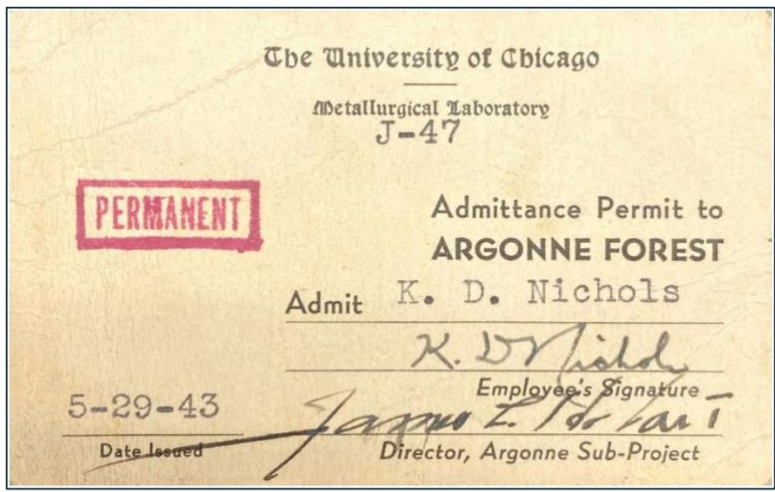
As I have stated, this column is written by Barbara Rogers Scollin, grandniece of General Kenneth D. Nichols. She is doing extensive research and bringing to light many details of Major General Nichols life that have not been available recently. This series will continue and will help put much needed details in place regarding Nichols and his value to Oak Ridge and more.

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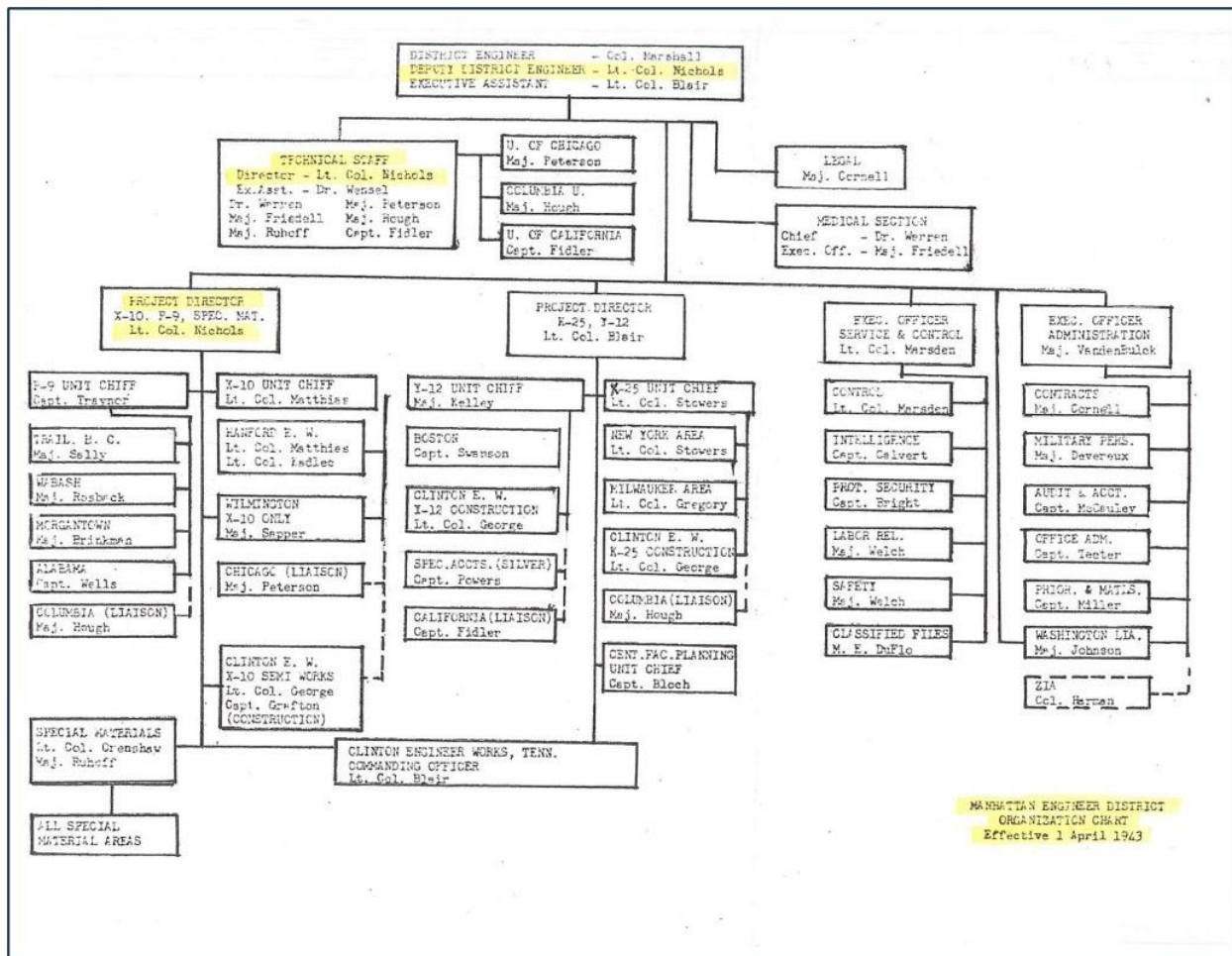
Lieutenant Colonel Kenneth D. Nichols Deputy District Engineer, Manhattan Engineer District (Photo by Ed Westcott. Courtesy Emily (Westcott) and Don Hunnicutt)



Colonel Kenneth D. Nichols' University of Chicago's Argonne Forest Met Lab ID Card (Courtesy U.S. Army Corps of Engineers, Office of History)

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Manhattan Engineer District, Organization Chart, Effective 1 April 1943, showing Lt Colonel Nichols as Deputy District Engineer, Director of Technical Staff and Project Director of X-10, P9, and Special Materials. (Courtesy U.S. Army Corps of Engineers, Office of History)