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Research Paper

Building a Bomb on Broken Dreams: How the actions of one small community lead to an explosive chain reaction of change

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ABSTRACT: *Oak Ridge remains notable not only for its significant yet overlooked role within the infamous Manhattan Project that developed the first nuclear weapons ever to be used in combat, but also for its unique and unfortunate struggle with issues of race and segregation, the byproduct of being one of the only main sites of the Manhattan Project to be located in the south. Set against the backdrop of worsening economic conditions and race relations throughout East Tennesee and combined with international conflict abroad, the alignment of these factors would push the long marginalized African American families of the region to the strange, novel promise of "Black Oak Ridge". Unknown to the public, the Manhattan Project's "secret city" would come to symbolize a groundbreaking tool for the war effort and a better life for southern workers of all races desperately in need of a job. Ultimately, the essential role that African American laborers in Oak Ridge played in the process of manufacturing the nuclear material that was to go in Little Man and Fat Boy was resisted every step of the way by Tennessee authorities on the state and federal level, meaning that the race issue was one that unfortunately could not be ignored. By highlighting the horrible treatment many African American laborers and families in Oak Ridge suffered under a segregationist policy regime in housing and labor that was still lighter in some aspects thanks to the city's status as a federal town, this article attempts to draw attention to the incongruence between the regressive policies of a city that on paper was deeply wedded to the concept of technological progress. Through the contrast between the heavy reliance placed on Black labor as a factor in the production of the world's first functional nuclear weapons and the racist oppression they suffered regardless, this paper asserts that the notable progress that the African Americans of Oak Ridge saw in their status and rights thanks to federal oversight of the city, and well before the first great victories of the civil rights movement, was simply a long overdue recognition of their invaluable accomplishments. In this way, the Secret City can be viewed as a microcosm of the struggles, changes, and progress of an America emerging out of the World Wars and into the modern era.*
KEYWORDS: *Oak Ridge, Manhattan Project, East Tennessee, Civil Rights, Nuclear Energy, New Deal*

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"Oak Ridge is unique…The concept back of the planning and operation of this small city is as backwards sociologically as the atomic bomb is advanced scientifically."-Enoch Waters[1]

In 1955, one year after the Supreme Court made the landmark Brown v. Board of Education decision, the Atomic Energy Commission (AEC), which governed the small southern town of Oak Ridge, Tennessee announced the most controversial decision in the body's history- Oak Ridge would be the first school system in the entire Southern United States to integrate.[2] While this was an unprecedented decision that shocked the wider nation, this act was unsurprising for the small town, so familiar with momentous change. For most of its history, Oak Ridge was not only a pioneer in civil rights but also in one of the greatest technological advancements of the 20th century.

[1] " Negro Kids Can't Go to School At Biggest Brain Center," *Chicago Defender, December 29, 1945.*
[2] "Before Clinton or Little Rock, Oak Ridge Integration Made History." Knox News, February 16, 2009.

Founded in the foothills of east Tennessee,[3] Oak Ridge was a federal town established for a top-secret, urgent task that had never been done before: the creation of the nuclear bomb.[4] Ultimately, the labor of tens of thousands of Americans helped this initiative bear fruit. and the application of the technology changed the world forever when two nuclear bombs were detonated on Hiroshima and Nagasaki at the end of the Second World War.[5] While a well-known story, what is often forgotten today about the creation of the atomic bomb, is the "frequently overlooked," [6] invisible, yet omnipresent influence of the thousands of African Americans who worked on the "Manhattan Project." Despite being treated as inferior and suffering racial discrimination, their labor was just as essential to the creation and operation of the town of Oak Ridge as their white counterparts, and their work on the atomic bomb would be indispensable.[7] Ultimately, the role of African Americans in Oak Ridge would not only support the creation of new innovations that changed the world, [8] but would also pioneer the struggle for racial equality and desegregation in the workplace and in schools, with[9] the trailblazing decision of the Atomic Energy Commission to desegregate Oak Ridge's public school system creating a new frontier for racial equality that matched its ongoing desegregation efforts in the workplace.

I. Tolerance and Poverty: East Tennessee before Oak Ridge

Before the Second World War, the territory that was to become the "Atomic City" was a collection of small towns centered around Knoxville, the region's unofficial capital. While African Americans in this region enjoyed relative prosperity in the period after the civil war due to the region's progressive attitudes towards race,[10] [11] [12] this success soon disappeared by 1929. With the arrival of the Great Depression, many African Americans, including those from East Tennessee, were not spared, and many were hit hard, if not even harder, than their white counterparts.[13] Upon the collapse of most industries, many black urban workers were displaced by laid-off white workers who were desperate enough to accept the blue-collar and service jobs traditionally relegated to African Americans. Those who practiced agriculture faired poorly as well, as many black sharecroppers were struck by droughts[14] and price collapses, which caused them to fare even more poorly than before.[15] As a result, an overwhelming majority of African Americans were unemployed or earning poverty wages, and the unemployment rate for this population hovered around 50%,[16] more than double that of the nation, 25%.[17] Even when aid came in the form of federal relief projects and work programs, many African Americans never enjoyed the economic

[3] G. O. Robinson *The Oak Ridge Story: The Saga of a People Who Share in History* (Forgotten Books, 2010), 25.

[4] Charles W. Johnson, *City behind a Fence: Oak Ridge, Tennessee, 1942-1946*. (University of Tennessee Press, 1992), 6.

[5] Cynthia C Kelly. *The Manhattan Project: The Birth of the Atomic Bomb in the Words of Its Creators, Eyewitnesses, and Historians*. (Black Dog & Leventhal Publishers, 2020), 339.

[6]. "A Secret City with a Secret African American History." *The New York Times*, June 11. 2022.

[7] "African Americans and the Manhattan Project," *Nuclear Museum*, Atomic Heritage Foundation, Last modified 2016, accessed January 18, 2023, https://ahf.nuclearmuseum.org/ahf/history/african-americans-and-manhattan-project/.

[8] "Highlights of Y-12's History," Y-12, last modified 2017, accessed January 19, 2023. https://www.y12.doe.gov/about/history/highlights-y-12%E2%80%99s-history.

[9] "Manhattan Project park superintendent: We'll do better on Black history," *Oak Ridger*, June 8, 2022.

[10] *Tennessee Encyclopedia*, s. v. "Industry". 2018 ed.

[11] Lester Lamon, Blacks in Tennessee 1791-1970, (Univ. of Tennessee Press, 1981), 62.

[12] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service, last Modified September 2019, accessed January 21, 2023.

[13] "Race Relations in the 1930s and 1940s," U.S. History Timeline, Library Of Congress, last modified 2022, accessed January 20, 2023 https://www.loc.gov/classroom-materials/united-states-history-primary-source-timeline/great-depression-and-world-war-ii-1929-1945/race-relations-in-1930s-and-1940s/.
https://www.loc.gov/classroom-materials/united-states-history-primary-source-timeline/great-depression-and-world-war-ii-1929-1945/race-relations-in-1930s-and-1940s/.

[14] Cynthia Kelly, *A Guide to the Manhattan Project in Tennessee* (Worzalla, 2015), 48.

[15] Joe Trotter, *From a raw deal to a New Deal?* (Oxford University Press, 1996), 23.

[16] "Race Relations in the 1930s and 1940s," U.S. History Timeline, Library Of Congress.

[17] "Great Depression Facts," FDR Presidential library,, last modified 2022, accessed January 20, 2023 https://www.fdrlibrary.org/great-depression-facts#:~:text=How%20high%20was%20unemployment%20during,or%2012%2C830%2C000%20people%20was%20unemployed.

benefits, as discriminatory hiring practices gave most jobs to white Americans.[18] Through the 1930s, there was seemingly no escape from poverty, depression, and unemployment.[19]

II. A Race of Non-Atomic Proportions

While domestic issues remained at the forefront as the Great Depression dragged on, concern over foreign issues grew as well, especially for physicists Leo Slizard and Albert Einstein. Learning of the recent discovery of fission by German physicists and fearful of its hypothetical potential to create a bomb with a destructive power never seen before, [20] they wrote to President FDR to implore him to "approach Government Departments, … put forward recommendations for Government action" in the hopes that developing a nuclear weapon would counteract the formation of a similar technology from the Nazis. [21] Convinced, Roosevelt convened an Advisory Committee on Uranium, ushing in the effort to create a groundbreaking weapon with so much destructive potential that it would change warfare forever- the nuclear bomb.[22]

As the feasibility of this untested technology was clear and the production of the actual weapon began in earnest,[23] the government prepared to take any measure, even those alien to the social climate, to ensure that they would be the first to harness this technological and military frontier. With FDR appointing Army Corps of Engineers General Leslie Groves as the director of the project in September 1942, [24] the development shifted from a theoretical to a physical product, However, there were still many logistical problems that signaled the growing pains of producing a new technology that previously "existed only in laboratory conceptions." [25] While project directors managed to solve some of the most pressing and vital issues, such as locating land in rural East Tennessee to develop and produce the Uranium-235 central to the function of the bomb[26] that fulfilled their many and varied demands for space and resources, there were still many problems that pertained to both this site and the project overall due to its unprecedented scale. [27] For instance, before any production could occur, the enrichment plants and housing for this new site, dubbed "Black Oak Ridge",[28] would first need to be constructed from the ground up. This was easier said than done, as despite picking a location with good proximity to potential laborers, the sheer speed and size required by the project, as well as direct competition with the TVA and wartime efforts, meant that relying solely on white laborers in the region was not enough to fulfill the demands of the project. As a result, the federal government began to turn to an alternate source of labor - black Americans. Not unfamiliar with hard labor [29]and mostly unemployed due to the Great Depression,[30] the government found in them a competent, untapped labor pool that was mostly ignored due to the discriminatory practices of the region, and was opened up by Executive Order 8802, (See Appendix A)which was issued on June 25, 1941, banned all "discrimination because of race, creed, color, or national origin" within the nation's defense industry[31] and provided the grounds to establish a new frontier in atomic labor. Eager to expand its workforce, the federal government began to seek out Black laborers throughout the South using an approach of newspaper ads and

[18] Cranston Clayton, "The TVA and the Race Problem," *Opportunity, Journal of Negro Life*, Vol. 12, No. 4, p. 111 (1934), http://newdeal.feri.org/opp/opp34111.htm. "

[19] Gary Richardson, "The Great Depression," Federal Reserve History, last modified 2013, accessed January 30, 2023, https://www.federalreservehistory.org/essays/great-depression#:~:text=The%20Great%20Depression-,1929%E2%80%931941,World%20War%20II%20in%201941.&text=%E2%80%9CRegarding%20the%20Great%20Depression%2C%20%E2%80%A6%20we%20did%20it.

[20] "Einstein's Letter," The Manhattan Project: An Interactive History, US Department of Energy-Office of History and Heritage Resources, last modified 2015, accessed January 21, 2023, https://www.osti.gov/opennet/manhattan-project-history/Events/1939-1942/einstein_letter.htm.

[21] Albert Einstein, "Einstein-Szilard Letter," *Nuclear Museum*, Atomic Heritage Foundation, 2 Aug. 1939, https://ahf.nuclearmuseum.org/ahf/key-documents/einstein-szilard-letter/.

[22] Ray Smith, "Vannevar Bush and Ernest Lawrence – Two Key Individuals," *Oak Ridge Observer*, August 26,2007.https://www.y12.doe.gov/sites/default/files/assets/document/07-07-26.pdf.

[23] Francis Gosling, *The Manhattan Project: Making the Atomic Bomb* (DIANE Publishing, 1999), 10.

[24] Leslie Groves, *Now It Can Be Told: The Story of the Manhattan Project* (Da Capo Press, 1975), 3.

[25] Robinson, *The Oak Ridge Story*, 25.

[26] Groves, *Now It Can Be Told*, 94.

[27] Kelly, *A Guide to the Manhattan Project*, 14.

[28] United States Engineering Department Community Relations Section, *For Your Information: A Guide to Oak Ridge* (United States Engineering Department, 1946), 3.

[29] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.

[30] "Race Relations in the 1930s and 1940s," U.S. History Timeline, Library Of Congress

[31] Franklin Roosevelt, "Executive Order 8802: Prohibition of Discrimination in the Defense Industry (1941)," Milestone Documents, National Archives, Washington, DC.

contracted recruiters. This campaign proved effective as many jobless African Americans were receptive to the promises of stable, reliable employment. Even those with employment flocked to the site, eager to earn the project's high salary, and promise of amenities, such as housing, utilities, and transportation. Many also hoped that the opportunities offered by the Manhattan Project would allow them to obtain skilled labor positions that had previously been denied to African Americans, and allow them to rise above their traditional roles and integrate into a new frontier of skilled, well-paying labor that had long been denied to them.[32]

III. Constructing the cornerstones

Arriving on government buses and trains in 1943, many African Americans were among the first laborers to arrive at the sparsely-settled wilderness that became Oak Ridge.[33] Soon after, work began and laborers operated on a tight schedule to fulfill the construction of three massive plants. Many were quickly assigned to construction crews constructing the crucial K-25, X-10, and Y-12 facilities. African Americans, who served as essential parts of these crews, made history by working alongside white laborers in one of the first examples of an integrated jobs corps in the south. Soon, the community at Oak Ridge served as one of the first examples of southern workplace desegregation, doing the same tasks and earning the same wages as whites in the same positions.[3435] This was relatively unprecedented, given that many other federal works projects, such as the WPA[36] and TVA[37] in the South still limited African Americans workers from being employed in the same firms or projects as white workers. Even when positions were shared, African Americans suffered in segregated work details[38] and wage disparity.[39] At Oak Ridge, Black laborers established a new frontier by making significant contributions to the project as a whole, laying not only the cornerstones of the plants but also the foundations for what were to become the residential and commercial centers of town. From the project's start in 1942, the area rapidly changed, with the landscape of the region from remote hills to a booming metropolis. (See Appendix B) While the work was menial, with workers mainly performing mundane tasks such as pouring concrete, building foundations, and clearing out sites,[40] Many were happy to be working in well-paying positions, where they enjoyed a sense of workplace equality alien to them after living in the staunchly segregationist South.[41] One worker remarked, "Everybody was so glad to have a job making some money. We weren't making money back home." [42]

However, this equality proved to be limited, as this equal treatment, like much else, was confined to blue-collar labor.[43] Many African Americans males were forbidden from taking up white-collar professions, including the scientific jobs that formed the town's backbone. Instead, African American males who did not serve in construction were often relegated to roles such as janitorial, domestic, cafeteria, and laundry positions.[4445] Any employment outside of these jobs was unheard of even when job vacancies for skilled posts made themselves available, as discrimination made the chances for qualified individuals of being selected effectively zero.[46] Still, despite their limited social mobility, black labor at Oak Ridge was crucial to the Manhattan Project, as they helped construct the vital plants and residential infrastructure at Oak Ridge that proved essential to the Manhattan project

[32] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.
[33] Robinson, *The Oak Ridge Story*, 17.
[34] Lorena Wipple, African American Oral Histories of Oak Ridge, Tennessee, Public Schools During the Early Days of Desegregation, 1955 – 1967, 2013, University of Tennessee, PhD Dissertation. TRACE, https://trace.tennessee.edu/cgi/viewcontent.cgi?article=3113&context=utk_graddiss.
[35] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.
[36] Lamon, *Blacks in Tennessee, 91.*
[37] Nancy Grant, TVA and Black Americans : planning for the status quo(Philadelphia : Temple University Press), 48.
[38] Charles Lumpkin, *American Pogrom: The East St. Louis Race Riot and Black Politics* (Ohio University Press, 2008), 179.
[39] Donald Howard, *The WPA and Federal Relief Policy* (New York: Da Capo Press). 295.
[40] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.
[41] "African Americans and the Manhattan Project," *Nuclear Museum,* Atomic Heritage Foundation.
[42] Kelly, *The Manhattan Project*, 198.
[43] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.
[44] "A Secret City."
[45] "African Americans at Los Alamos and Oak Ridge: A Historic Context study," Manhattan Project National Historical Park, National Park Service.
[46] Ibid.

and the development of the nuclear bomb as a whole. By August 1945, plants such as Y-12 would go on to provide most of the fissile material inside the bomb dropped on Hiroshima.[47] Moreover, the desegregated workplaces and wages that manufactured the bomb pioneered a path to workplace integration and epitomized the notion of "equal wages for equal jobs"[48] that was thus far unexplored in the South.

However, this was to prove one of the only fields where new frontiers of integration would be explored. Many familiar hallmarks of segregation, such as segregated or even restricted bathrooms, drinking fountains, bus seating, and eating establishments were present prior to the 1960s.[49][50] While white children had enjoyed the benefits of a public school system, Black children remained forbidden from town until the war's conclusion. Even with the establishment of a primary school soon after the ban was lifted, Oak Ridge's Black children would lack secondary education until integration.[51]

Housing was poor, with black laborers forced to live in segregated hutments, which were crowded 4-6 person [52] 16-by-16 foot plywood structures that lacked many basic amenities, such as plumbing or running water. The majority only contained an oil stove that provided insufficient heating. Communal bath houses were used instead for all sanitary purposes, with up to 72 individuals sharing each.[53]

Other than race, [54] housing was segregated by sex as black women were made to live apart from their spouses and families[55] in what was called the "pen," a fenced region of hutments where they were under constant surveillance by guards who subjected them to a strict 10 o'clock curfew. [56]

Many condemned the situation, with journalist Enoch Waters denouncing it as an "artificially planned slum."[57] In the end, there was little anyone could do as petition attempts by Black community leaders requesting housing improvements failed, even leading sometimes to repercussions for petitioners.[58]

IV. A Changing Legacy

Despite the hardships, many black Americans at Oak Ridge persisted. The high wages and steady employment justified their working conditions, even if they worked in unskilled positions. Enduring the discrimination on the Manhattan Project, they paradoxically created a new frontier that untethered previous attitudes about Black labor through the significant roles they played, while many other attitudes, such as segregation in housing, would remain the same. The construction of Oak Ridge's processing plants, assisted by black construction workers, proved instrumental to the construction of the first atomic weapons,[59] It was black labor that ultimately made it possible for the United States to put an end to the most destructive conflict in human history by breaching the frontiers of combat capability and introducing world governments to nuclear warfare.[60] The technology of the bomb was made possible only through the production of the Uranium required to make the bomb, which was provided by Oak Ridge's processing plants.[61] The birth of the bomb also ushered in a new era of technology and warfare called the atomic age, [62] with the plants continuing to lead the nuclear development that defined the Cold War. [63]

The technological and military frontiers established by the bomb were made possible by Oak Ridge's African American population, who underwent significant as they trailblazed a path to equality in the workplace

[47] "Oak Ridge and Hanford Come Through," The Manhattan Project: An Interactive History, US Department of Energy-Office of History and Heritage Resources, last modified 2015, accessed January 29, 2023, https://www.osti.gov/opennet/manhattan-project-history/Events/1942-1945/come_through.htm.

[48] Wipple, African American Oral Histories of Oak Ridge, Tennessee.

[49] Peter Hales, *Atomic Spaces, Living on the Manhattan Project(University of Illinois Press, 1999), 199-200*

[50] "African Americans and the Manhattan Project," *Nuclear Museum*, Atomic Heritage Foundation.

[51] Wipple, African American Oral Histories of Oak Ridge, Tennessee.

[52] "African American Hutments," Manhattan Project National Historical Park, National Park Service, last modified 2022, accessed January 30 2023, https://www.nps.gov/places/african-american-hutments.htm.

[53] " Negros Live in Modern 'Hoovervilles' at Atom City," *Chicago Defender, January 5, 1946.*

[54] *Tennessee Encyclopedia*, s. v. "Oak Ridge". 2018 ed.

[55] "A Secret City."

[56] Kelly, *A Guide to the Manhattan Project*, 49.

[57] " Negro Kids Can't Go to School."

[58] Johnson, *City behind a Fence, 114.*

[59] Gosling, *The Manhattan Project: Making the Atomic Bomb*, 43

[60] "African American Hutments," Manhattan Project National Historical Park, National Park Service.

[61] Groves, *Now It Can Be Told*, 108

[62] Dwight Eisenhower, "Press Release, "Atoms for Peace" Speech, December 8, 1953," DDE's Papers as President, Speech Series, Box 5, Dwight D. Eisenhower Presidential Library, St Abilene, KS.

[63] "Mission," Y-12, Department of Energy, last modified 2020, accessed January 30, 2023, https://www.y12.doe.gov/mission.

and in schools. While Black students were still forced to leave Oak Ridge to pursue secondary education after the war, this soon changed in 1954 with *Brown v. Board of Education* which declared segregation in education unconstitutional.[64] Although a landmark event for civil rights on paper, this decision had little immediate effect, as many schools continued to resist desegregation.[65] Oak Ridge proved to be a different case- not long after the decision was passed down in 1955, the Atomic Energy Commission broke with the long-standing southern tradition and became the first school system in Tennessee to desegregate.[66] While integration drew the ire of white classmates and town residents, the 85 students, dubbed the "Scarboro 85," integrated mostly without issue.[67]

Despite the many monumental and significant achievements of Oak Ridge's black community, the story of the African Americans who came to Oak Ridge continues to evade public perception. African Americans laborers at Oak Ridge played a vital role in pioneering Atomic Energy,[68] which continues to strongly influence the world today, whether that would be technologically through the rise of advancements such as nuclear energy, politically through the resulting atomic age,[69] or socially in their efforts in pioneering the effort to fight segregation in schools and at work. While this vital part in the Manhattan Project and the process of desegregation continues to remain overlooked, its significance is undeniable. Because of their vital efforts, the world was unrecognizably reformed- the way nations fought, thought, and produced were turned on their heads, as peace and technology were advanced under the newly birthed atom bomb[7071] during the world of indirect conflict and tension we now know as the Cold War, creating a new generation of pioneers in political and technological fields as they attempted to adapt to this new world's vastly different geopolitical and scientific norms.[7273] Ultimately, the change seen in the tale of Oak Ridge's African Americans is symbolic of the American Experiment- that no matter one's identity, and regardles of barriers that one faces because of it, anyone can overcome, contribute and ultimately change their community for the better.

[64] Brown v. Board of Education, 347 U.S. 483, 1 (1954).

[65] "Brown v. Board of Education," Legal Defence Fund, last modified 2022, accessed January 22, 2023, https://www.naacpldf.org/brown-vs-board/.

[66] "Oak Ridge, Tenn., Embraces The History Of 85 Black Students Who Overcame Segregation," *NPR,* Febuary 21, 2021.

[67] "Spreading the story of the 'Oak Ridge 85'," *Oak Ridger,* September 9, 2021.

[68] "African American Hutments," Manhattan Project National Historical Park, National Park Service.

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[70] Andreas Persbo, "Hiroshima: 75 years on and the start of the atomic age," Commentary, European Leadership Network, last modified 2020, accessed January 28, 2023, https://www.europeanleadershipnetwork.org/commentary/hiroshima-75-years-on-and-the-start-of-the-atomic-age/.

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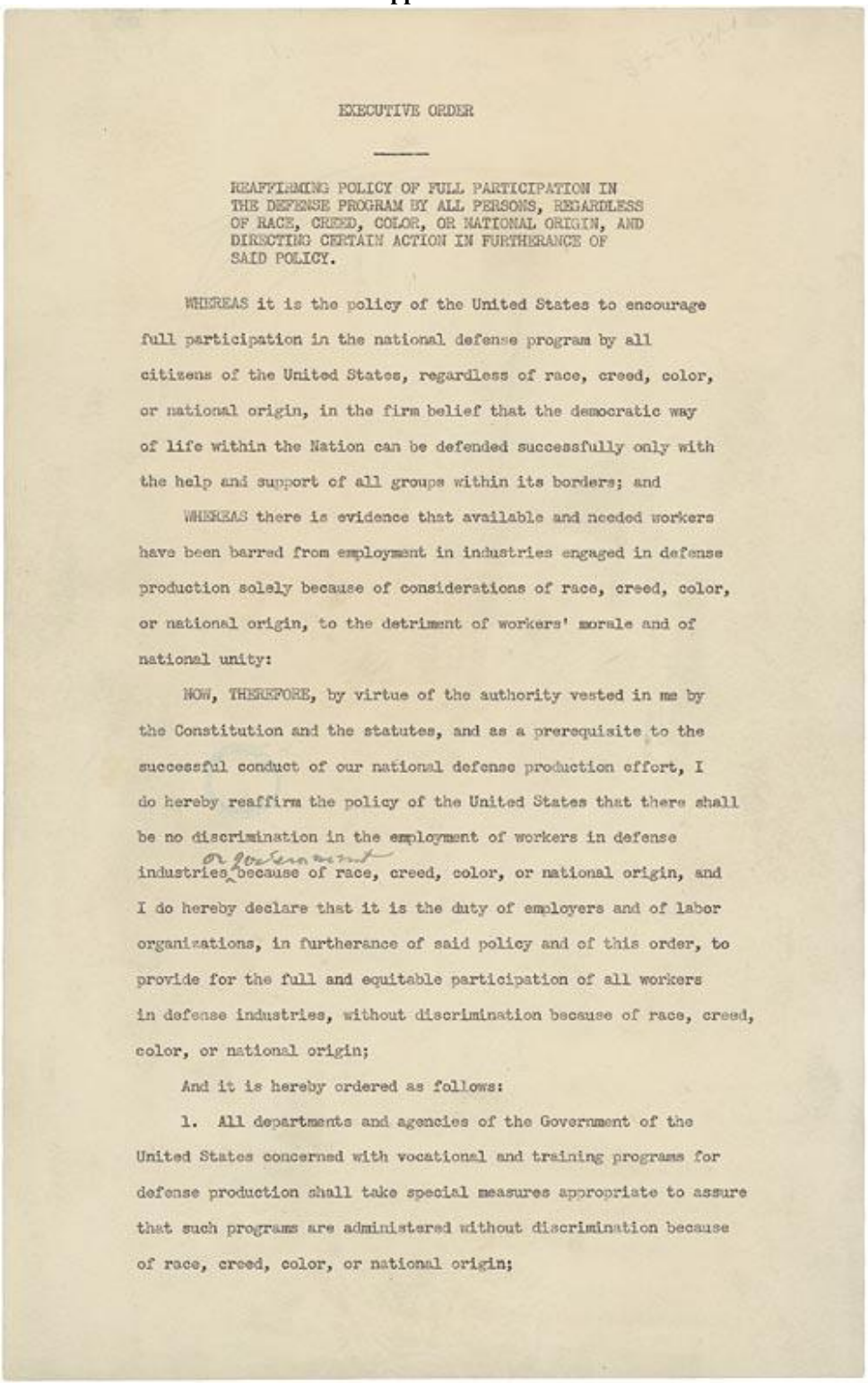
[72]"Tech-Politik: Historical Perspectives on Innovation, Technology, and Strategic Competition," *CSIS,* December 19, 2019.

[73]"THE KISSINGER EFFECT ON REALPOLITIK," *War On the Rocks,* December 29, 2015.

Appendix A



EXECUTIVE ORDER

REAFFIRMING POLICY OF FULL PARTICIPATION IN THE DEFENSE PROGRAM BY ALL PERSONS, REGARDLESS OF RACE, CREED, COLOR, OR NATIONAL ORIGIN, AND DIRECTING CERTAIN ACTION IN FURTHERANCE OF SAID POLICY.

WHEREAS it is the policy of the United States to encourage full participation in the national defense program by all citizens of the United States, regardless of race, creed, color, or national origin, in the firm belief that the democratic way of life within the Nation can be defended successfully only with the help and support of all groups within its borders; and

WHEREAS there is evidence that available and needed workers have been barred from employment in industries engaged in defense production solely because of considerations of race, creed, color, or national origin, to the detriment of workers' morale and of national unity:

NOW, THEREFORE, by virtue of the authority vested in me by the Constitution and the statutes, and as a prerequisite to the successful conduct of our national defense production effort, I do hereby reaffirm the policy of the United States that there shall be no discrimination in the employment of workers in defense industries or Government because of race, creed, color, or national origin, and I do hereby declare that it is the duty of employers and of labor organizations, in furtherance of said policy and of this order, to provide for the full and equitable participation of all workers in defense industries, without discrimination because of race, creed, color, or national origin;

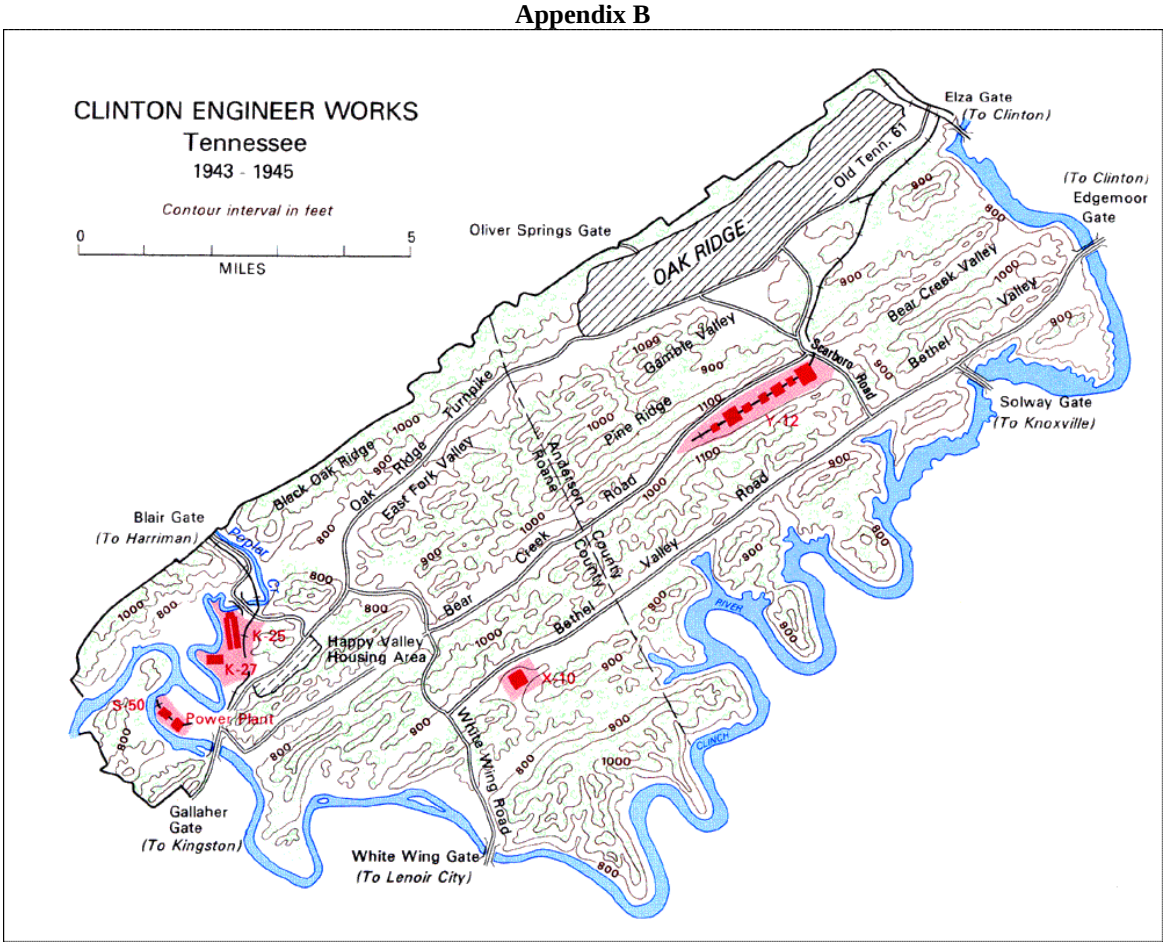
And it is hereby ordered as follows:

1. All departments and agencies of the Government of the United States concerned with vocational and training programs for defense production shall take special measures appropriate to assure that such programs are administered without discrimination because of race, creed, color, or national origin;

This is a copy of the first page of Executive Order 8802 issued by President Roosevelt, which forbade all discrimination in the United States defense industry, paving the way that allowed African American laborers to play a significant role in the development of the Manhattan Project.

Executive Order 8802 dated June 25, 1941, in which President Franklin D. Roosevelt prohibits discrimination in the defense program. June 1941. Photocopy. National Archives. https://www.archives.gov/milestone-documents/executive-order-8802.

Appendix B



Map of Oak Ridge, which was part of the facility known as the Clinton Engineer works during the war. Notable features on this map include Oak Ridge's plants (shaded in red) and Oak Ridge itself (shaded by lines). The plants, which were constructed by African American workers would go on to prove vital to the project and nuclear technology as a whole by providing the Uranium central to the function of the first atomic bomb used in warfare. *Clinton Engineering Works.* Map. Washington, D.C.: U.S. Government Printing Office,1985. Atomicarchive.com. https://www.atomicarchive.com/media/maps/oakridge.html.

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Secondary

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Appendix Graphics

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