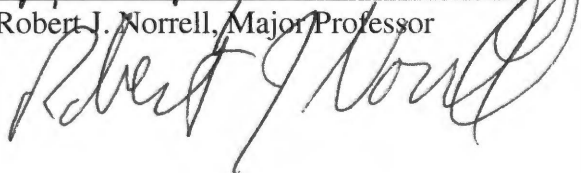
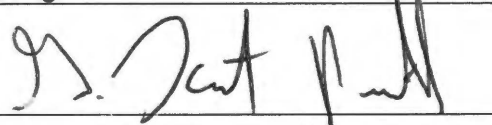
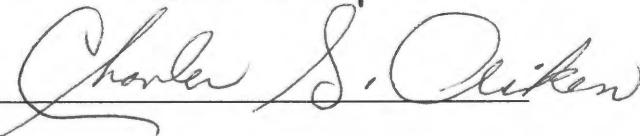


To the Graduate Council:

I am submitting herewith a dissertation written by William Wade Drumright entitled "A River for War, a Watershed to Change: The Tennessee Valley Authority During World War II." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in History.


Robert J. Norrell, Major Professor


We have read this dissertation and
recommend its acceptance:

Acceptance for the Council:


Vice Chancellor and Dean of
Graduate Studies

A RIVER FOR WAR, A WATERSHED TO CHANGE:
THE TENNESSEE VALLEY AUTHORITY DURING WORLD WAR II

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

William Wade Drumright
May 2005

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Thesis
2005b
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Dedication

This dissertation is dedicated to my parents, Helen A. and the late Claude E. “Bud” Drumright, and to my sister and brother, Tamara J. and Elliott E. Drumright. A part of all of them is contained in this work.

Lastly, this dissertation is especially dedicated to my spouse, Patricia “Patti” Drumright. Through her steadfast love, support, and encouragement, this work is as much hers as it is mine.

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Abstract

This dissertation examines how the Tennessee Valley Authority responded to, and was affected by, the demands placed upon this agency by America's participation in the Second World War. Established by Congress in May 1933 at the behest of President Franklin D. Roosevelt, the Authority was charged with the physical alteration and rehabilitation, and the economic revitalization of the Tennessee River basin and watershed. These tasks included making the river suitable for ship and barge navigation; achieving flood control through a system of dams on the main river and its tributaries; and producing, transmitting, and selling electric power. During the period covered in this study, from autumn of 1938 through the end of the war, TVA played a vital role in the war effort. In doing this, the Authority accomplished most of its inaugural mandate while protecting itself from congressional proscription and abolition.

As one of the three main Allied nations, the United States became the primary supplier of the munitions, armaments, and materiel necessary to defeat the Axis Powers. To achieve this, the United States needed electrical power on an unprecedented scale and the Authority, by expanding its existing system, was well-placed to help provide this output. Between 1940 and 1945, TVA built seven dams and a steam-generating plant, and installed eleven hydroelectric units at various existing dams. With this increased capacity, the Authority generated 46.7 billion kilowatt-hours of electricity, with 75 percent of this total going to such war production and products as making aluminum, manufacturing aircraft, and creating the specialized uranium for the atomic bomb.

When it came to socioeconomic matters, however, the Authority had a mixed record. Wartime realities spurred the growth of a movement for racial justice in a region based upon the cornerstones of white supremacy and segregation. TVA, consequently, continued to acquiesce to the South's racial mores and customs—a choice that had both practical and moral ramifications. Massive federal spending, meanwhile, aided the South's wartime and postwar economic rise. External factors and internal realities, however, constrained the Authority's attempts to shape both the nature and direction of this growth.

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Chapter One

Introduction

May 2003 marked the seventieth anniversary of the Tennessee Valley Authority.¹ Formed by Congress during the first one hundred days of Franklin D. Roosevelt's presidency, this public corporation was charged with the physical alteration and rehabilitation and the economic revitalization of the Tennessee River basin and watershed. This area, four-fifths the size of England, covered parts of seven states and contained some of the poorest sections of a nation laid low by the Great Depression.² During a trip to Alabama in January 1933, President-elect Roosevelt visited Wilson Dam, a federal project built during World War I at Muscle Shoals, Alabama, on the Tennessee River. The historian David M. Kennedy notes that Roosevelt "was struck by the sight and sound of the foaming waters roaring unused over its massive spillways. In the vast surrounding valley of the Tennessee, families nightly lit their cabins with kerosene lamps and cooked on wood stoves. To Roosevelt, the contrast was intolerable."³

TVA's formative years, 1933 to 1945, occurred amid the crises of the Depression and the Second World War. Of these events, historians' and non-

¹Throughout this work, the terms TVA and the Authority refer to the Tennessee Valley Authority.

²George B. Tindall, *The Emergence of the New South, 1913-1945* (Baton Rouge: Louisiana State University Press, 1967), 446-47. See also Don McBride, *TVA and the National Defense* (Knoxville: Tennessee Valley Authority, 1975), 1: "The Tennessee River watershed is a 40,910-square-mile area encompassing parts of seven states—Virginia, North Carolina, Georgia, Tennessee, Alabama, Mississippi, and Kentucky." Richard Lowitt refers to the plight of such areas as east Tennessee, southwest Virginia, western North Carolina, northwest Georgia, north Alabama, and northwest Mississippi in "The TVA, 1933-45," in Erwin C. Hargrove and Paul K. Conkin, eds., *TVA: Fifty Years of Grass-Roots Bureaucracy* (Urbana: University of Illinois Press, 1983), 35-65. As Lowitt notes on page 37, this area "was possibly the poorest part of the poorest region in the nation at that time."

³David M. Kennedy, *Freedom from Fear: The American People in Depression and War, 1929-1945* (New York: Oxford University Press, 1999), 147-48.

historians' interest in World War II burgeoned in the 1990s. The fiftieth anniversary in 1995 of the war's end and the release of archival records that forced reassessment of various wartime events and issues are two factors swelling the tide of this topic. Just as important is the urgency to capture the remembrances of members of the wartime generation before they die.⁴ In the current decade, meanwhile, December 7, 2001, marked the sixtieth anniversary of Japan's attack upon Pearl Harbor. Its importance was further embellished in relation to the September 11, 2001, bombings in New York City and Washington, D.C. In explaining these attacks upon American soil, politicians, journalists, commentators, and historians compared the terrorists' assaults to the event that plunged the United States into World War II.⁵

This dissertation will examine how TVA responded to, and was affected by, the demands placed upon it by America's participation in the Allied victory over the Axis Powers.⁶ Studying the agency's activities from spring 1938 to summer 1945—

⁴Thomas Farragher, "A Thinning of the Ranks," *Boston Globe*, 11 November 1999. At that time, World War II veterans were dying at the rate of 1,100 a day. This information is cited in Mark A. Stoler, "Military History is Alive and Well," *Reviews in American History*, Vol. 29 (September 2001): 441-46. On 441, Stoler states: "As of 1989 more than 70,000 books on the Second World War had already been published, and over the ensuing decade there was no abatement of this flood."

⁵For example, see R.W. Apple Jr., "Awaiting the Aftershocks," *New York Times*, 12 September 2001, A1, A24.

⁶The Allies comprised Great Britain and its dominions, the United States, the Soviet Union, China, and the "Free French." The French who collaborated with the Nazis following the fall of France in June 1940 were known as "Vichy." The Axis Powers consisted of Germany, Italy, and Japan. This alliance was formed in September 1940. Italy capitulated on April 29, 1945, Germany on May 8 and Japan on August 14.

No one-volume monograph has covered, as its main subject, TVA's contribution to the Allied victory. The closest approximation is *TVA and the National Defense*, an in-house study done by Don McBride. He served on the TVA Board of Directors from 1966 to 1975. Parts of this story, such as the controversy over Douglas Dam and the growth of the Authority's electric-generating capacity, have appeared in various monographs. See, for example, Gordon R. Clapp, *The TVA: An Approach to the Development of a Region* (Chicago: University of Chicago Press, 1955), 38-45; Erwin C. Hargrove, *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990* (Princeton: Princeton University Press, 1994), 55-59; and Steven M. Neuse, *David E. Lilienthal: The Journey of an American Liberal* (Knoxville: University of Tennessee Press, 1996), 155-59.

as America first faced, then overcame the crisis of war—can enhance historical understanding of the New Deal and the Second World War. How did the Authority survive, even flourish, during the war when Congress either reduced or eliminated other New Deal-era agencies and programs. Then, how did the demands of wartime alter TVA’s mission and achievement of its goals as set forth in its 1933 charter? These questions are examined throughout this manuscript. The answers involve, among other factors: TVA’s role as a federal agency; its position and mandate in a region afflicted by economic deprivation, racial discord, and political insularity; and the Authority’s place in the debate over the proper involvement of the federal government in the nation’s political, economic, and social life. As the historians William Bruce Wheeler and Michael J. McDonald point out, awareness and sensitivity to this essential historical context means that “anyone who would assess the contributions of TVA must do so on an era-by-era, project-by-project basis.”⁷ Critics have assailed TVA with, among other charges: threatening private enterprise; acquiescing to Jim Crowism; perpetuating economic inequities; injuring the environment; and misinterpreting the past to perpetrate and justify an aggrandizement of administrative control. What many of these critics de-emphasize or overlook are the times and the realities that TVA and its employees faced. In an assessment of the agency’s economic impact, the economist Gilbert Banner argues that in critical evaluation the standards and the objectives of the administrator differ from those of the idealist. “The administrator may have to compromise in order to accomplish

⁷William Bruce Wheeler and Michael J. McDonald, *TVA and the Tellico Dam, 1936-1979: A Bureaucratic Crisis in Post-Industrial America* (Knoxville: University of Tennessee Press, 1986), 217. The authors make their observations in cautioning against judging the agency on the basis of counterfactual econometric analysis.

something in the desired direction, and if he accomplishes that which he thought possible, he considers his work a success. The idealist may interpret the same results as failure.”⁸

The Authority, on the balance, deserves the praise that it received for its wartime work. In 1942, for example, Under Secretary of War Robert P. Patterson lauded the Authority’s efforts in a letter to TVA Chairman David E. Lilienthal: “The War Department has leaned heavily on the TVA to provide a tremendous amount of the power required for the military program.” Patterson added: “Its confidence in the TVA to produce results is well justified.”⁹ This praise is significant because the war, to varying degrees, imperiled the physical security, and the political, economic, and social systems and frameworks of the major Allied nations. To first gain the advantage between 1942 and 1944, and then to force surrender in 1945, the Allies had to surpass the Axis Powers in two crucial areas: the utilizing of human and material resources, and convincing Allied citizens of the justness of their cause. This was neither easy, nor inevitable. As the historian Richard Overy correctly maintains: “There was nothing preordained about Allied success.”¹⁰

The United States under Franklin Roosevelt survived the perils of Depression and war. In accomplishing this, the nation exposed the lies of those ideologues who

⁸Gilbert Banner, “Toward More Realistic Assumptions in Regional Economic Development,” in John H. Moore, ed., *The Economic Impact of TVA* (Knoxville: University of Tennessee Press, 1967), 121-43. The quote appears on page 124.

⁹Robert P. Patterson to David E. Lilienthal, September 5, 1942. Found in Records of the Tennessee Valley Authority, National Archives/Southeast Region, Record Group 142; Office of the General Manager/Administration Files, 1933-1957; Box 32; Curtis-Morgan-Morgan File. Hereafter, this collection is cited as TVA, RG 142, GM/Administration files.

¹⁰Richard Overy, *Why the Allies Won* (New York: W.W. Norton & Company, 1995), 1-24. The quote appears on page 1.

held that human decency and political effectiveness were mutually incompatible. As Kennedy argues, Roosevelt did “prevent a naked confrontation between orthodoxy and revolution.”¹¹ FDR achieved this, notes the historian James MacGregor Burns, by holding fast to one of his cardinal precepts: “the idea that government had a positive responsibility for the general welfare. Not that government must do everything, but that everything practicable must be done.”¹² The Authority is an example of this idea; TVA was both a product of circumstances, and of past acts and vast possibilities. The former came about because of the New Deal measures enacted in response to the Depression, and these laws and programs would unevenly foster relief, recovery, and reform.¹³ The latter featured “two ideas or concepts, one inclusive of the other”: what to do about Wilson Dam, a subject fiercely debated throughout the 1920s and early 1930s, and FDR’s idea to develop the river and its watershed as a national project.¹⁴ As Roosevelt stated to Congress on April 10, 1933, “In short, this power development of war days leads logically to national planning for a complete river watershed involving many states and the future lives and welfare of millions. It touches and gives life to all forms of human concerns.”¹⁵

¹¹Kennedy, *Freedom from Fear*, 380.

¹²James MacGregor Burns, *Roosevelt: The Lion and the Fox* (New York: Harcourt, Brace & World, Inc., 1956; reprint New York: Smithmark Publishers, 1996), 476. The quote is taken from the reprint version.

¹³Detailed historical debates over what the New Deal did, and did not, accomplish are outside the scope of this dissertation. For a good one-volume treatment that contains an excellent descriptive bibliography, see Anthony J. Badger, *The New Deal: The Depression Years, 1933-1940* (New York: Hill & Wang, 1988). For a more recent analysis and assessment of this period, see Kennedy, *Freedom from Fear*, 131-380.

¹⁴Kenneth S. Davis, *FDR: Into the Storm, 1937-1940, A History* (New York: Random House, 1993), 164-65. For an examination of the events preceding TVA’s formation, see Preston J. Hubbard, *Origins of the TVA: The Muscle Shoals Controversy* (New York: Norton, 1968).

¹⁵Samuel I. Rosenman, ed., *The Public Papers and Addresses of Franklin D. Roosevelt*, 13 vols. (New York: Random House, 1950). This quote can be found in vol. 2, page 122.

The exigencies of war and TVA's response to these challenges demonstrated the agency's importance to America's war effort. As Kennedy argues, Roosevelt, Congress, and leading military and civilian officials based much of American strategy on fighting "a war of machines rather than men. . . . Expending motors and metal rather than flesh and blood was the least-cost pathway that the Americans could take toward victory."¹⁶ To become the "arsenal of democracy" for the Allies, the United States needed electrical power on an unprecedented scale. The Agency, by expanding its existing system, was well placed to generate its share of this needed resource.¹⁷ Between 1940 and 1945, TVA built seven dams and a steam generating plant and installed eleven hydroelectric units at various existing dams. Through this growth, the Authority increased its power capacity from 481,000 kilowatt hours to more than 2.5 million kilowatt hours. Its power system generated 46.7 billion kilowatt hours of electricity, and 75 percent of this total went to war production.¹⁸

TVA provided much of the electricity needed to run crucial war industries in the Valley: factories that produced aluminum, built aircraft, made the ammonium nitrate used in bombs and other munitions, and provided the specialized uranium for the atomic bomb. The deployment in early August 1945 of the latter weapon hastened the end of war with Japan. The Authority also served the nation's military

¹⁶Kennedy, *Freedom from Fear*, 619.

¹⁷Much-needed electric power was also generated by the Columbia River dams in the Pacific Northwest—Bonneville and Grand Coulee. This point is noted in Judson King, *The Conservation Fight: From Theodore Roosevelt to the Tennessee Valley Authority* (Washington, D.C.: Public Affairs Press, 1959), 280-81.

¹⁸McBride, *TVA and the National Defense*, 27.

A kilowatt measures the working energy of electrical power. As a term, it is comparable to the concept of horsepower—the amount of force needed to lift and move 550 pounds one foot in one second. One horsepower equals 750 watts, and it takes 1,000 watts to equal one kilowatt. This information is found in Martha E. Munzer, *Valley of Vision: The TVA Years* (New York: Alfred A. Knopf, 1969), 132-33.

effort in map-making; in preparing vital compounds—red phosphorous and calcium carbide—used in producing, respectively, ammunition and synthetic rubber; and in Lend-Lease by providing fertilizer and temporary housing to Great Britain, and assisting the Soviet Union in replacing hydroelectric dams that Germany destroyed. In fulfilling these wartime demands, TVA solidified its presence in the national government by accomplishing much of its inaugural mandate. These tasks included: making the river suitable for ship and barge navigation; ensuring flood control through a system of dams strategically located on the main river and selected tributaries; enhancing soil quality while reducing erosion; afforestation, reforestation, and soil reclamation; increasing farm yields primarily through the production and application of phosphate fertilizer; and generating, transmitting, and selling electric power.

This dissertation follows a chronological format. Chapter One looks at relevant historical works. This includes both literature on TVA and its place in New Deal historiography, and that of the American homefront during the war. Chapter Two covers the period before the United States became a combatant. From March to June 1938, the Roosevelt Administration surveyed, and found lacking, the nation's capacity to generate adequate electric power for defense purposes. From summer 1938 until early December 1941, as war consumed much of Asia and Europe, the Authority became involved in America's growing defense commitment to its future Allies in various ways, especially by expanding its power-generating capacity. Chapter Three details how TVA harnessed the resources of the Tennessee River basin and watershed through the building of such projects as Fontana and Kentucky Dams,

the completion of flood control and a navigation channel on the river, and the Agency's contribution to Lend Lease. Chapters Four and Five examine how the Authority placated congressional, governmental, and private opposition to fulfill its directives. As part of its work, TVA gained support from and effected coordination among public and private entities: federal, state, and local governmental bodies, along with various agricultural, business, and industrial interests. Through this process, TVA gained vital public backing for its mission and its programs, support that enabled it to withstand political maneuvers designed to proscribe the agency's powers.

The controversy surrounding the authorization and construction of Douglas Dam, covered in Chapter Four, demonstrates this point. The dam, located on the French Broad River near Dandridge, Tennessee, was approved by Congress and President Roosevelt in late January 1942 and became operational in February 1943—a TVA construction record for erecting one of its dams. This facility, which cost approximately \$40.3 million, provided electric power to such entities as the Aluminum Company of America (ALCOA), which produced aluminum used in the making of military aircraft; and to the Clinton Engineer Works (present-day Oak Ridge), part of the overall effort to build and deploy the atomic bomb. The proposal and approval of the dam subjected TVA to fierce congressional opposition by Sen. Kenneth McKellar of Tennessee. In December 1941, even after the United States entered the war, McKellar persuaded Congress to block funding for the dam. Tennessee's senior senator relented only after heavy lobbying—including pressure from President Roosevelt—and public opinion excoriating the senator for his

opposition. From spring of 1942 to spring of 1945, McKellar unsuccessfully pushed legislation that would have given him, as acting chairman of the Appropriations Committee, effective control of TVA through the powers of patronage and budgetary oversight.

Chapter Six looks at how TVA addressed various racial and socioeconomic matters, while Chapter Seven analyzes the effects of the Authority's work on the Tennessee Valley: labor-related issues; the impact of TVA programs and spending upon select cities and towns; the products of TVA power; and the Agency's postwar plans to absorb its expanded power capacity by facilitating economic growth. Finally, Chapter Eight summarizes TVA's growth during the war and the challenges it faced in the early postwar era (1945-1963).

During his State of the Union message to Congress on January 6, 1942, Roosevelt announced production goals for the American war effort that reflected a drastic revision of the original Victory Program estimates. The numbers contained in this speech—125,000 planes, 75,000 tanks, 35,000 antiaircraft guns, and 10 million tons of shipping, all to be built in 1943—coming amid the doleful news then emerging from Europe and the Far East, struck some in industry as unfeasible. Those industrialists who believed this was so accused Roosevelt of making political hay out of America's lagging production effort.¹⁹ But by 1945, as Kennedy argues, America had become “the greatest arsenal of weaponry the world had ever seen,” providing ordnance and weapons in what he describes as a “stupendous Niagara of numbers.”

¹⁹Kenneth S. Davis, *FDR: The War President, 1940-1943, A History* (New York: Random House, 2000), 393-96. For the genesis of the original Victory Program, see 293-303.

These include such accomplishments as “. . . 5,777 merchant ships, 1,556 naval vessels, 299,293 aircraft, 634,569 jeeps, 88,410 tanks, 11,000 chain saws, 2,383,311 trucks, 6.5 million rifles, 40 billion bullets. By comparison, Germany made 44,857 tanks and 111,767 aircraft; Japan a handful of tanks and 69,910 planes; Britain, over the much longer period of 1934 to 1945, just 123,819 military aircraft.”²⁰ How TVA contributed to this arsenal is the subject of this story.

* * *

Following the Agency’s formal establishment in June 1933, the magnitude of its mandate prompted much press coverage and debate. In June 1934, for example, the *Chattanooga Times* published a series of articles examining the impact of TVA upon the Tennessee Valley. The newspaper first put out a special section to “familiarize its readers with the territory selected for the government’s enterprise and the plan and purpose of the development already inaugurated.”²¹ The historian Martha E. Munzer, in describing stories in other publications, related how people living in the cities, towns, and farmlands in the valley, the “lowlanders,” described the Authority as “the biggest thing in their lives.” There were the dissenting voices—those who lived in the hills, coves and mountains—of people who loathed government interference of any kind. Munzer describes how one hillsman, when asked about TVA, spit out tobacco juice and exclaimed: “Them guvment [sic] fellers are a little crazy.”²²

²⁰Kennedy, *Freedom from Fear*, 655.

²¹“Tennessee Valley Special Edition,” *The Chattanooga Times*, 3 June 1934, 37.

²²These quotes are reprinted in Munzer, *Valley of Vision*, 77-78.

The historical literature on TVA covers the gamut between the residents' praise and the mountaineer's suspicion and hostility. The assessments that date from the Authority's inception until the late 1960s are generally favorable. The Agency is credited with helping revitalize a downtrodden region through reclamation of forests and soils, controlling the Tennessee River, and helping provide electricity throughout the Tennessee Valley. The assessments made after 1970, however, are mostly unfavorable. TVA is charged with not living up to its original vision, contributing to environmental degradation, and being unresponsive to the region's citizens. Much of this scholarship casts the Agency as a bureaucratic leviathan that must be controlled and tamed by the common folk.²³ In large part, this interpretive model is a product of profound changes that swept through the historical profession in the 1960s and 1970s: in particular, the ascendancy of the "new history" with its needed emphasis upon expanding historical understanding by giving voice to those—women, African-Americans, other minorities, the lower classes and non-elites—who received short-shrift from practitioners and advocates of the "old history."²⁴

This dissertation sails against the recent historiographical current of TVA scholarship. This work contends that when examined in context—within the prevailing political, economic, and social standards and realities that existed between 1933 and 1945—TVA's wartime contributions prove the wisdom of its establishment. This context is vital, because recent scholarship views the period from spring of 1938

²³A succinct description of how critics have cast TVA in this dubious light appears in Wheeler and McDonald, *TVA and the Tellico Dam*, 216.

²⁴For an overview of these changes, see Gerald N. Grob and George Athan Billias, eds., *Interpretations of American History: Patterns and Perspectives*, 6th ed., vol. II, since 1877 (New York: The Free Press, 1992), 16-23.

through World War II as a watershed moment in TVA's history. This is the time, scholarly critics contend, when the Authority made a fateful decision that set its course during the war and in the postwar era. In crafting their initial vision for the agency President Roosevelt and TVA's first chairman, Arthur E. Morgan, envisioned the harmonizing of flood control, power development, transportation, soil conservation, and forestry to improve the welfare of the Valley's residents. Instead of this desired tributary TVA took the main channel of industrialization and mass consumption, buttressed by cheap electricity—a path that eventually ran the Authority upon the shoals of environmental degradation and political unaccountability.

To be sure, TVA made mistakes and it deserves criticism where it is due. The Authority's analyses, assessments, decisions, and actions contained beneficial and harmful consequences that helped influence and shape the development of the Tennessee Valley and, by extension, the South and the United States. In their study on how the building of Norris Dam affected the local population, Michael J. McDonald and John Muldowny raise a pertinent question about judging government agencies and institutions on the basis of their "ideal goal formulations," namely, "if some assessment is not made in ideal terms, what terms shall be used?"²⁵ Yet, the origins and progression of TVA make for a complex subject. The Authority is a microcosm of what the political scientist Heinz Eulau argued in support of the New Deal—that it is characterized by a politics that "involves adjustment, compromise,

²⁵Michael J. McDonald and John Muldowny, *TVA and the Dispossessed: The Resettlement of Population in the Norris Dam Area* (Knoxville: The University of Tennessee Press, 1982), 269.

integration.” As a creation of democratic processes, TVA works within and is constrained by this resulting political system. Moreover, the agency has to deal with the reality of industrialization and technological change in American life, and do so within a capitalist economic framework that holds both free and private enterprise as the norm. The Depression, which crippled the economy and visited misery on millions of citizens, prompted a national outcry: the federal government must take the lead in providing relief, recovery, and reform. Yet, most Americans still believed in capitalism; they wanted it fixed, and not replaced by socialist approaches that emphasize state planning and control. Satisfying both of these demands required a political discourse that facilitated a give-and-take approach, and not a this-way-or-no-way stance. As Eulau notes, ideological thinking “is tender-minded because it is self-indulgent. But in politics, self-indulgence . . . represents an escape from the politics of maturity, not recognition of the potentialities as well as [the] limitations of political life.”²⁶ By viewing the New Deal as a middle location between laissez-faire and statism—seeking a workable balance between two unacceptable extremes—it becomes easier to appreciate the complexities that attended TVA’s formation and subsequent development.

Much of the historical literature that examines TVA shares similar trends with New Deal historiography. This congruence is understandable. The Authority has long been seen as a prime example, for better or for worse, of what the New Deal wrought to political, economic, and social conditions in the twentieth-century United

²⁶Heinz Eulau, “Neither Ideology nor Utopia: The New Deal in Retrospect,” *Antioch Review* XIX (Winter 1959-1960): 523-37. The quotes appear on pages 536 and 537.

States.²⁷ Assessments made during the years of the New Deal—from March 1933 when Franklin Roosevelt first took office, to June 1938 with the passage of the era’s last meaningful legislation, the Fair Labor Standards Act—shape much of the historiographical contours of this subject. Broadly speaking, assessments of the New Deal and its place in American history fall into three categories. First, those who believe that individual effort is the foundation of national greatness generally see the New Deal as anathema to traditional values of personal freedom and advancement. Roosevelt’s predecessor, Herbert Hoover, held this viewpoint. Thus, programs such as TVA represented an unprecedented and gravely mistaken approach to curing the ills then besetting the American economy. Second, those who argue that the rise of an industrial economy requires a certain amount of public regulation and government reform usually view the New Deal as necessary and beneficial to the nation’s well-being. Rexford G. Tugwell, one of the early New Deal “brain trusters,” argued that governmental planning for all aspects of the economic system was the only the way the United States could prevent the boom-and-bust fluctuations that had plagued its economy since the nineteenth century. Finally, to those who contend that American politics, economics, and society must be overhauled to eradicate poverty, racism, war and inequality, the New Deal is a placebo that leaves intact systemic defects and inequities.²⁸

²⁷See, for example, the essays in Steve Fraser and Gary Gerstle, eds., *The Rise and Fall of the New Deal Order* (Princeton: Princeton University Press, 1989).

²⁸Grob and Billias, *Interpretations of American History*, 286. Interestingly enough, Tugwell would later criticize the New Deal and, specifically, TVA, saying that Roosevelt was unwilling to plan in a rational and systematic manner. An example of Tugwell’s views can be found in R.G. Tugwell and E.G. Banfield, “Grass Roots Democracy—Myth or Reality,” *Public Administration Review* 10 (Winter 1950): 47-55.

These categories also illustrate the main patterns of TVA historiography. In those works appearing from 1933 until the late 1960s, the criticism and praise of the Authority generally focus upon the relationship between valuing of the individual and public regulation for societal well-being. From the 1970s on, critics excoriate TVA for creating new deprivations while failing to correct long-term problems.

Following Roosevelt's death on April 12, 1945, robust historical debate on the New Deal soon emerged. Such early historical supporters as Arthur M. Schlesinger, Jr., and Frank Friedel placed it within the broad tradition of American reform movements.²⁹ Then in the 1960s, William Leuchtenburg's seminal monograph, reinforced by Paul Conkin's thought-provoking work, shifted the historiographical stance to that of a more balanced assessment of achievements and limitations.³⁰ Despite some challenges from leftist historians in the 1960s and early 1970s, this middle ground of restrained approval has become the center of New Deal historiography.³¹

In TVA's case, reaching this centrist historiographical position has remained elusive because most arguments concerning the Authority are based upon whether its

²⁹Arthur M. Schlesinger, Jr., *The Age of Roosevelt*, 3 vols. (Boston: Houghton Mifflin, 1957-1960); Frank Friedel, *Franklin D. Roosevelt*, 4 vols. (Boston: Little, Brown, 1952-1973).

³⁰William E. Leuchtenburg, *Franklin D. Roosevelt and the New Deal, 1932-1940* (New York: Harper & Row Publishers, 1963); Paul K. Conkin, *The New Deal* (Arlington Heights, Ill.: Harlan Davidson, Inc., 1967).

³¹Alan Brinkley, "Prosperity, Depression, and War, 1920-1945," in Eric Foner, ed., *The New American History*, revised and expanded edition (Philadelphia: Temple University Press, 1997), 133-58. In describing Leuchtenburg's contribution to New Deal scholarship, Brinkley on page 144 uses the phrase "muted praise" to define a historiographical middle ground that conveys the New Deal's contributions and limitations. For more skeptical appraisals of the New Deal, see Howard Zinn, ed., *New Deal Thought* (Indianapolis, Ind.: Bobbs-Merrill, 1966); Barton J. Bernstein, "The New Deal: The Conservative Achievements of Liberal Reform," in *Towards a New Past: Dissenting Essays in American History*, ed. Barton J. Bernstein, 263-88 (New York: Alfred P. Knopf, 1968), 263-88; and Ronald Radosh, "The Myth of the New Deal," in *A New History of Leviathan*, ed. Ronald Radosh and Murray Rothbard, 146-87 (New York: Dutton, 1972).

presence is beneficial or harmful. Much of the contemporary criticism in the 1930s, 1940s, and 1950s concentrates upon three arguments. First, it was argued that the federal government should not compete with private utilities regarding the generation and sale of electric power; such actions violate economic principles of private enterprise. Second, tax revenues used to fund TVA were misspent because one area of the nation benefits to the detriment of other regions. Third, varied accounting practices rendered it difficult, if not impossible, to accurately compare related costs between the Authority and private utilities.³² The assertion about power rests upon the counterfactual hypothesis that without TVA, private utilities would have provided electricity throughout the Tennessee Valley and done so at the Authority's lower rates. The argument about funding ignores the likelihood that private interests would not have financed the expensive network of dams and related improvements that expanded use of the Tennessee River and its tributaries.³³ Finally, TVA accounting practices have to deal with other elements required by the TVA Act—flood control, fertilizer production, regional planning, etc.—that are in relation to both power generation and sales.³⁴

Contemporary and scholarly observers in this period and in the postwar era—those who maintain that regional planning was the best way to revitalize the region—

³²Three works written in this vein are the Edison Electric Institute, "An Appraisal of Tennessee Valley Authority," 23 February 1944; Dean Russell, *The TVA Idea* (Irvington-On-Hudson, N.Y.: The Foundation for Economic Education, 1949); and Frederick L. Collins, *Uncle Sam's Billion-Dollar Baby: A Taxpayer Looks at the TVA* (New York: G.P. Putnam's Sons, 1945).

³³Wilmon H. Droze, *High Dams and Slack Waters: TVA Rebuilds a River* (Baton Rouge: Louisiana State University Press, 1965), 66. The TVA spent \$148,915,775 between fiscal years 1933-1934 and 1946-47 to create, among other benefits, a 9-foot navigation channel on the Tennessee River. This improved waterway led to expanded commercial and private navigation.

³⁴On TVA's accounting practices before and during the war years, see E.L. Kohler, "The TVA and its Power-Accounting Problems," *The Accounting Review* 23 (January 1948): 44-62.

praise the Authority in the areas of regional administration; water-control planning; agriculture; dam design and architecture; navigation; and electric power.³⁵ TVA officials contributed to this literature by describing the agency's development and its accomplishments. Such works as David Lilienthal's *TVA: Democracy on the March*, Gordon Clapp's assessment of the Agency, Roscoe Martin's edited collection of essays by TVA officials, and Marguerite Owen's view from Washington put forth one of the Authority's key contentions: that it was able to find a balance between the top-down planning that Arthur Morgan favored, and local control that could turn TVA into a worm diced into segments, with these parts wriggling in different directions and thus dissipating the potential and actual efforts of unified action.³⁶ The Authority, Lawrence Durisch argues, played a large role in creating not "a *planned region*, but a region *that plans*."³⁷

³⁵On regional administration, see Clarence L. Hodge, *The Tennessee Valley Authority: A National Experiment in Regionalism* (New York: Russell & Russell, 1938), reprint, 1968; and C. Herman Pritchett, *The Tennessee Valley Authority: A Study in Public Administration* (Chapel Hill: University of North Carolina Press, 1943). On the benefits of TVA planning from an international perspective, see Odette Keun, *A Foreigner Looks at the TVA* (New York: Longmans, Green and Co., 1937); Julian Huxley, *TVA: Adventure in Planning* (London: Readers Union/The Architectural Press, 1943); and Herman Finer, *The TVA: Lessons for International Application* (Montreal: International Labour Office, 1944). Joseph S. Ransmeier examines water-control planning in *The Tennessee Valley Authority: A Case Study in the Economics of Multiple Purpose Stream Planning* (Nashville: Vanderbilt University Press, 1942); while Norman I. Wengert discusses agriculture in *Valley of Tomorrow: The TVA and Agriculture* (Knoxville: Bureau of Public Administration, University of Tennessee, 1952). For dam design as architecture, along with illustrations and critiques of other TVA structures, see Walter L. Creese, *TVA's Public Planning: The Vision, the Reality* (Knoxville: The University of Tennessee Press, 1990); and John H. Kyle, *The Building of TVA: An Illustrated History* (Baton Rouge: Louisiana State University Press, 1958). On navigation, see Droze, *High Dams and Slack Waters*. On the early years of the controversy over power development, see Thomas K. McCraw, *TVA and the Power Fight: 1933-1939* (Philadelphia: J.B. Lippincott Co., 1971).

³⁶David E. Lilienthal, *TVA: Democracy on the March* (New York: Harper, 1944); Clapp, *The TVA*; Roscoe C. Martin, ed., *TVA, The First Twenty Years: A Staff Report* (University, Ala.: University of Alabama Press; Knoxville: University of Tennessee Press, 1956); and Marguerite Owen, *The Tennessee Valley Authority* (New York: Praeger, 1973).

³⁷Lawrence Logan Durisch, "Southern Regional Planning and Development," *The Journal of Politics* 26 (February 1964): 41-59. Durisch added the italics.

In addition, there is the vital role that Roosevelt played in creating and preserving TVA. Building upon the earlier work of Sen. George Norris, who kept alive the possibility of public power in the South during the 1920s and early 1930s, FDR in 1933 brought together the two broad concepts incorporated in the Authority's enabling legislation: public power and multipurpose development of the entire Tennessee River watershed.³⁸ In March 1938, when the feud between its first board members—Arthur Morgan, Harcourt A. Morgan, and David E. Lilienthal—threatened to scuttle the Authority, Roosevelt intervened and, eventually, fired Arthur Morgan. Moreover, the President publicly and privately supported the Agency as it faced private, congressional, and legal opposition during the 1930s and 1940s, especially over the expansion of TVA power throughout the Tennessee Valley.³⁹

Scholarly works critical of the agency first began appearing after World War II, and they concentrate upon what their authors see as a dichotomy between vision and reality. Monographs by the literary scholar Donald Davidson and the sociologist Philip Selznick set the tone for later critiques. Both authors write in the tradition of the individual versus industrialization and in this contest, TVA-as-Goliath tramples the individual-as-David. The Authority is seen as a technocracy that does more harm than good, while it negatively dominates the people that it is supposed to serve.

³⁸Preston J. Hubbard, *Origins of the TVA: The Muscle Shoals Controversy, 1920-1932* (New York: Norton, 1968); Davis, *FDR: Into the Storm*, 164-82. For Norris's role in TVA's formation, see Richard Lowitt, *George W. Norris: The Triumph of a Progressive, 1933-1944* (Urbana, Ill.: University of Illinois Press, 1978), 17-25.

³⁹Thomas K. McCraw, *Morgan vs. Lilienthal: The Feud within the TVA* (Chicago: Loyola University Press, 1970); Roy Talbert, *FDR's Utopian: Arthur Morgan of the TVA* (Jackson: University Press of Mississippi, 1987). Another assessment of the Morgan-Lilienthal dispute can be found in Aaron Purcell, "Building Dams, Burning Bridges: Conflicting Philosophies on the Tennessee Valley Authority Board, 1933-1939 (M.A. Thesis: University of Louisville, 1996).

Davidson was a longtime force in southern literary circles from the 1920s through the 1940s, most notably as one of the Southern Agrarians.⁴⁰ For him, the human costs occasioned by loss of land, livelihood, and traditions exceed the benefits created by dams and electricity. For Selznick, TVA's and Lilienthal's conception of grass-roots democracy actually concealed a more sinister reality: "the deliberate surrender of TVA's agricultural assistance program to powerful and conservative interests hostile to the poor white and black farmers that the agency was supposedly most eager to help."⁴¹ Selznick's analysis of this process, which he calls "cooptation," has been criticized for lack of evidence and such historical context as the Depression, New Deal political battles, and the origins and early years of the TVA.⁴² But as McDonald and Muldowny point out, Selznick's work examined TVA from "its approaches to the grass roots." This not only gave historians new directions for inquiry, but Selznick's ideas built "a theoretical bridge from the agency to the people of the Valley."⁴³

Following this lead, later contemporary and scholarly critics have rested their arguments upon this historical edifice. To further explain the gap between vision and reality, the term "myth" is used with mostly nefarious connotations. In *Prisoners of Myth*, the political scientist Erwin Hargrove augments Selznick's theory of cooptation

⁴⁰Literary scholar Edward Shapiro argues that Davidson's objections to TVA were the exception rather than the rule among the Southern Agrarians. See Shapiro, "The Southern Agrarians and the Tennessee Valley Authority," *American Quarterly* XXII (Winter 1970): 791-806.

⁴¹Donald Davidson, *The Tennessee. Vol. II, The New River: Civil War to TVA* (New York: Rinehart & Company, Inc., 1948). See, for example, 217-24, 236-38, and 289-305. Philip Selznick, *TVA and the Grass Roots: A Study in the Sociology of Formal Organization* (Berkeley: University of California Press, 1949). The quote is found in Howard Segal, "Down in the Valley: David Lilienthal's TVA: Democracy on the March," *American Scholar* vol. 64, no. 3 (Summer 1995): 426. Along these lines, Nancy L. Grant also deals with the impact of TVA upon African-American farmers in *TVA and Black Americans: Planning for the Status Quo* (Philadelphia: Temple University Press, 1990), 73-99.

⁴²Richard A. Colignon, *Power Plays: Critical Events in the Institutionalization of the Tennessee Valley Authority* (Albany: State University of New York Press, 1997), 1.

⁴³McDonald and Muldowny, *TVA and the Grass Roots*, 6.

in studying the agency's institutional leadership. Hargrove defines myth as "not a fiction but a set of missions and aspirations that guide an organization and give it legitimacy with the rest of society."⁴⁴ For those historians examining the building of Fontana Dam, myth is closely linked with deception. They criticize TVA for high-handed treatment of the mountain residents in constructing what the historian Margaret Lynn Brown terms "the highest dam east of the Mississippi." The dam, moreover, changed the ecosystem of the Little Tennessee River, leading to the decline of various freshwater species. The historian Robert E. McFarland, Jr., argues that TVA power turned the Tennessee Valley into an "electrochemical corridor." This transformation carried high environmental costs: notably, strip-mining of coal; polluting streams and rivers; threatening the public health through air pollution and the use nuclear power; and altering the ecosystem of the Tennessee River watershed with the Authority's system of dams.⁴⁵ The environmental advocate William U. Chandler, writing in the muckraking tradition, uses myth in its most provocative sense. He assails the TVA for being, in effect, a waste of public monies. The agency accomplished nothing positive in agriculture, navigation, and flood control while becoming a technocracy that is both undemocratic and inefficient. Chandler's passion, however, cannot conceal the book's numerous shortcomings. Those include, for example, the author's pejorative assumptions about the Authority, his

⁴⁴Hargrove, *Prisoners of Myth*, 6, 49. The quote appears on page 49.

⁴⁵Margaret Lynn Brown, *The Wild East: A Biography of the Great Smoky Mountains* (Gainesville: University Press of Florida, 2000), 145-69. The quote appears on page 145. See also Stephen Wallace Taylor, "Building the Back of Beyond: Government Authority, Community Life and Economic Development in the Upper Little Tennessee Valley, 1880-1992," (Ph.D. diss., University of Tennessee, 1996), 79-157; and Robert Ernest McFarland, Jr., "Of Time and the River: Economy, People, and Environment in the Tennessee Valley, 1500-1900," (Ph.D. diss., University of Alabama, 1997), 247-322.

questionable use of counterfactual econometric analysis, and his cavalier handling of earlier historical works regarding TVA.⁴⁶

Since 1980 three scholarly works—a collection of essays, a historical monograph, and a biography of Lilienthal—have nudged this historiographical debate toward the center.⁴⁷ A monograph by the historians William Bruce Wheeler and Michael J. McDonald, *TVA and the Tellico Dam*, is a good example of a more balanced approach. In examining the controversial Tellico Dam project, the authors demonstrate how the Authority tried to chart its future by returning to its past. TVA sought a new mission after World War II. Spurred on by the exigencies of the war, the Authority had completed its congressional mandates of ensuring flood control, creating a navigable channel on the Tennessee River, and generating and distributing electric power. First as general manager, then as a board member, and later as chairman of the board, Aubrey “Red” Wagner pushed TVA to develop the Little Tennessee River basin in the same way it had changed the Tennessee River system. But as the authors note, realities had changed between 1933 and the beginnings of Tellico Dam in the mid-1960s. The older conservation model of judicious development and use of natural resources for the public good, which had influenced the origins of TVA, had given way since World War II to concerns over “quality-of-life” issues. Various preservationist groups sought to keep the last stretch of the Little Tennessee River in its natural state, without being impounded by the completion and operation of the dam. The Authority built Tellico, but not before the

⁴⁶William U. Chandler, *The Myth of TVA: Conservation and Development in the Tennessee Valley, 1933-1983* (Cambridge, Mass.: Ballenger Publishing Company, 1984).

⁴⁷See Hargrove and Conkin, *TVA: Fifty Years*; Wheeler and McDonald, *TVA and the Tellico Dam*; and Neuse, *David E. Lilienthal*.

well-publicized regulatory and legal battles cost the Agency much of the public support that it had built up, and had worked so assiduously to cultivate, since its inception.⁴⁸

World War II shaped the United States in various ways. In politics, the dictates of fighting the war altered the legacy of the New Deal and the tradition of liberalism that spawned TVA. In economics, federal spending in the South accelerated the region's change from the nation's problem child in the 1930s to its stellar example in the 1970s and 1980s.⁴⁹ In social matters, the war stimulated the growth of a movement for racial justice in a region based upon the cornerstones of segregation and white supremacy. This dissertation analyzes TVA's role during the Second World War and, in so doing, examines a lesser-known aspect of the agency's past. The Authority's history from 1933 to 1939 has been well-examined, and much work has been done on the period after 1960. Yet, changes in TVA from 1940 to 1959 have not received as much attention. The Authority's efforts between 1940 and 1945 came as TVA made decisions, formulated policies and fulfilled its mandates amid the pressing and shifting circumstances of world crisis and war. This work, therefore, examines the ramifications of the Authority's contribution to the war effort and the war's impact upon the Authority.

⁴⁸Wheeler and McDonald, *TVA and Tellico Dam*, 64-213, passim.

⁴⁹An overview of this process can be found in Bruce J. Schulman, *From Cotton Belt to Sunbelt: Federal Policy, Economic Development, and the Transformation of the South, 1938-1980* (New York: Oxford University Press, 1991).

Chapter Two

Preparing for War

On March 11, 1938, as the residents of Washington, D.C., confronted the residue of the season's largest snowfall,⁵⁰ a different type of storm broke loose inside the White House. Beginning just after 11 a.m. and lasting for almost seven hours, the three directors of the Tennessee Valley Authority—Chairman Arthur E. Morgan, Harcourt A. Morgan, and David E. Lilienthal—met with President Roosevelt. FDR hoped to quell a crisis in the agency that he called "the apple of his eye."⁵¹ Since TVA's formation in 1933, the directors exhibited fundamental disagreements over the interpretation and implementation of the TVA Act. Arthur Morgan, emphasizing the planning sections of the law, sought to use the Authority as a vehicle to rehabilitate and reshape the lives of the residents of the Tennessee Valley—where in 1933, the annual cash income per family frequently totaled below one hundred dollars.⁵² H.A. Morgan and Lilienthal, both distrustful of large-scale planning schemes, took a more limited view of TVA's mission. The Authority was to foster and promote soil and land rehabilitation, and build dams throughout the Tennessee River watershed to accomplish three purposes: control flooding, open the main river to navigation, and generate and transmit hydroelectric power throughout the Valley.

To achieve what they wanted, H.A. Morgan and Lilienthal joined forces and outvoted Arthur Morgan on major policy issues and operational matters. Angered

⁵⁰"Year's Heaviest Snow Cloaks Capital in Crystalline Blanket," *Washington Post*, 11 March 1938, 18.

⁵¹Neuse, *David E. Lilienthal*, 70. Roosevelt made this observation during a 1936 interview.

⁵²Lowitt, "The TVA, 1933-45" in Hargrove and Conkin, eds., *Fifty Years*, 37.

over his desires being consistently thwarted, Arthur Morgan lashed out at his fellow directors. The conflict between these men, initially internal, had raged publicly since the fall of 1936 and this dissension embarrassed both Roosevelt and the agency.⁵³ Throughout his presidency, Roosevelt loathed to adjudicate and settle disputes among his subordinates.⁵⁴ The rift among TVA's directors—one that FDR worsened by not intervening sooner—had to be resolved; it threatened the Authority's existence. Reviving a technique he once used as governor of New York,⁵⁵ Roosevelt called the directors to Washington and demanded that they substantiate their accusations—with the President acting, in effect, as both prosecutor and judge. Despite repeated questioning by Roosevelt, according to a *Washington Post* story, Arthur Morgan “flatly defied the President” by not supporting his charges of “dishonesty, bad faith, and misconduct” levied against Harcourt Morgan and Lilienthal.⁵⁶ The controversial hearing and Arthur Morgan's defiance of the President began the events that eventually brought about Morgan's dismissal⁵⁷ and a seven-month congressional

⁵³For a succinct account of the controversy, see Thomas McCraw's *Morgan vs. Lilienthal: The Feud Within TVA*.

⁵⁴The historian James MacGregor Burns examines this reluctance in *Roosevelt: The Lion and the Fox* (New York: Harcourt, Brace, 1956); and *Roosevelt: The Soldier of Freedom* (New York: Harcourt Brace Jovanovich, 1970).

⁵⁵See Ted Morgan, *Roosevelt: A Biography* (New York: Simon and Schuster, 1985), 357-61. In June 1932, New York State investigators targeted the shady dealings of New York City Mayor James J. “Jimmy” Walker. After receiving the Democrat presidential nomination, then-Gov. Roosevelt's handling of the Walker scandal had become a campaign issue. In August 1932, Roosevelt summoned Walker to Albany, the state capitol, for removal hearings. He closely questioned the mayor about various graft and payola schemes that occurred during Walker's tenure as mayor. After two weeks of grueling testimony followed by a week of seclusion, Walker resigned on September 2. Roosevelt's handling of the case generated broad press and public support.

⁵⁶Sidney Olson, “Agree or Quit, TVA Men Told by Roosevelt,” *Washington Post* (12 March, 1938), 1.

⁵⁷Memorandum, “Chairman Morgan's Complaints Against the Internal Reorganization of the Authority,” no date listed. President's Subject Files, Tennessee Valley Authority: March 1938-June 1941; TVA: Undated, Franklin D. Roosevelt Library. Hereafter, this archival collection is called the Roosevelt Library. See also Letter from Robert H. Jackson, Acting Attorney General, to President

investigation that rejected the former chairman's allegations and exonerated the Authority.⁵⁸

Beginning in the spring of 1938, turbulence in both Europe and Asia pushed international matters into the forefront of U.S. political debate and defense planning. The board controversy and congressional inquiry, while a watershed period in TVA's history, was soon overshadowed by the Authority's role in contributing to the nation's defense. This shift can be seen in newspaper coverage of the board controversy. Although the hearing made page one of the March 12 *Washington Post*, it was not the lead story. Events in Europe had taken a drastic turn. As Harcourt Morgan and Lilienthal left the White House grounds that Friday evening, Secretary of State Cordell Hull was going in to see the President. Hull told both men, "Well, I have had quite a day, too: Germany has just taken over Austria." The Secretary said that Germany and Japan were becoming "desperado" nations. The future Axis partners gratified their lust for both territory and control, because they "knew that peaceful nations would not fight under any circumstances."⁵⁹

Roosevelt, March 17, 1938. President's Subject Files, Tennessee Valley Authority: March 1938-June 1941; TVA: Undated, Roosevelt Library. Jackson, a future Supreme Court justice, wrote that the President had the legal authority to dismiss Arthur E. Morgan.

⁵⁸Congress authorized the special joint committee in Public Resolution 83, April 4, 1938. For a record of the inquiry, which comprises 14 parts, two appendices, and an index, see 75th Congress, 3rd session, Special Joint Committee, *Hearings*, "Investigation of the Tennessee Valley Authority." The final report, containing both the majority and minority views, is contained in 76th Cong., 1st sess., Special Joint Committee, *Report*, "Investigation of the Tennessee Valley Authority," April 3, 1939.

See also Neuse, *David E. Lilienthal*, 105. The joint committee's "seventy days of hearings, divided almost equally between Washington and the Tennessee Valley, produced over 6,000 pages of testimony, nearly 600 exhibits, and a 1,000-page report consisting of majority and minority opinions and technical reports."

⁵⁹David E. Lilienthal, *The Journals of David E. Lilienthal: Volume I: The TVA Years, 1939-1945* (New York: Harper & Row, 1964), 74.

Between March 1938 and early December 1941, the United States haltingly moved from staying out of the fight to becoming a combatant. The congressional debates over revising the 1937 Neutrality Act, passing the Lend-Lease program in spring 1941, and extending the 1940 Selective Service Act demonstrated the nation's reluctance to commit fully to fighting and move the country into full mobilization for war. Only with Japan's attack on Pearl Harbor was this resistance overcome.⁶⁰ This controversy over what America should do had created a constrained political landscape that determined what the nation could achieve with regards to wartime mobilization. To expand these boundaries a preponderance of Americans had to be coaxed into supporting efforts—namely, providing military aid to countries resisting Germany, Italy, and Japan—that increased America's risk of becoming a combatant. Once hostilities formally commenced, swift Axis conquests forced daily, even hourly, reappraisals of the political, economic, and military assumptions guiding the Roosevelt Administration's short-of-war strategy. As the war expanded, the United States increased its involvement and sped up its preparations. In doing this, the Roosevelt Administration and American business, enemies throughout much of the New Deal years, reluctantly formed and shaped a *de facto* partnership to aid the nation's war effort.

TVA responded to these realities by sticking with a strategy that had worked during the agency's formative years, May 1933 to August 1939.⁶¹ This approach

⁶⁰The Neutrality Act revisions, Lend-Lease debate, and Selective Service Act extension are covered in Kennedy, *Freedom From Fear*, 432-96 passim.

⁶¹These time frames overlap, but the main issues that confronted TVA from its formation—defending its power program against private utility interests, resolving the board controversy, and establishing the agency's legal right to exist—were resolved by late August 1939.

emphasized specifics instead of generalities. Few people in the Tennessee Valley supported broad-scale planning; it was often perceived as a nebulous concept with its reliance upon ideas and philosophies. Far more valley residents backed the idea of approving and executing specific projects; dams and transmission lines, for example, were visible and their benefits were measurable.⁶² The Authority, therefore, avoided getting bogged down in acrimonious debates over how the nation should prepare for war. Instead, TVA proposed and implemented specific measures that rested upon the cornerstones of its legal foundation: navigation, flood control, power production, and national defense. This approach satisfied prevailing political realities and aided the nation's military buildup. TVA's wartime programs, among other accomplishments, accelerated the production of nitrates and fertilizer and generated vast amounts of electric power. By war's end, meanwhile, a system of twenty-six dams on the Tennessee River and its tributaries established a 9-foot navigation channel on the main river. This 650-mile stretch from Knoxville to Paducah, Kentucky, supported a thriving commercial traffic.⁶³ In serving the war effort, the Authority gained vital public and political support. This enabled the agency to both expand its programs and fend off challenges to its powers.

Germany's conquests between September 1939 and June 1940 prompted the United States to hasten its defense buildup. To finance this growth, Congress in 1940 and 1941 appropriated nearly \$16 billion for Army and Navy requisitions and another

⁶²This observation is confirmed in Hodge, *The Tennessee Valley Authority*, 240-41.

⁶³Tennessee Valley Authority, "Annual Report of the Tennessee Valley Authority for the Fiscal Year Ended June 30, 1946," page xvi, 7. During the calendar year 1945, 256,465,000 ton-miles of freight traffic was shipped on the Tennessee River.

\$7 billion in Lend-Lease authorizations.⁶⁴ Four supplemental appropriations, in July 1940, July and December 1941, and January 1942, provided funds for projects that TVA completed during the war: namely, building seven new dams and a steam plant, and installing generating units at existing dams.⁶⁵ As TVA officials pointed out, these projects would satisfy both wartime and postwar requirements, as they “would fit logically into the normal navigation, flood control, and power program of the TVA.”⁶⁶

The peacetime demand for electricity, TVA officials believed, would absorb the enlarged capacity engendered by wartime requirements. Their prediction was borne out in the postwar era,⁶⁷ largely due to a surging economy and increasing military needs during the Cold War, especially regarding nuclear production. Yet, the emphasis upon power production during World War II further skewed the unequal relationship between the power and non-power departments. This trend had begun in TVA’s early years and had gained momentum following Arthur Morgan’s dismissal in March 1938. By war’s end, the power division and its related agencies

⁶⁴Kennedy, *Freedom From Fear*, 476.

⁶⁵The monies to build Kentucky Dam were part of continuing appropriations. Congress in May 1937 first authorized building of then-Gilbertsville Dam. This project was completed in 1944 and was formally dedicated on October 10, 1945. A detailed examination of the events surrounding this project can be found in Bernard A. Gannon III, “Monument to Power: The Political Struggle for Kentucky Dam” (Ph.D. diss., Southern Illinois University, 1997).

⁶⁶Tennessee Valley Authority, “The Cherokee Project: A Comprehensive Report on the Planning, Design, Construction and Initial Operations of the Cherokee Project” (Washington D.C.: United States Government Printing Office, 1946), 6-7. The quote appears on page 6. In addition to Cherokee, the dams authorized and built during the war years were Fontana, Douglas, Apalachia, Chatuge, Nottely, and Ocoee No. 3.

⁶⁷TVA, “Annual Report for FY 1946,” 1-5.

predominated within the Authority. This shift, however, created division and crisis that would plague the agency in the early postwar period from 1945 to 1959.⁶⁸

The history of both TVA's formation and its first years has been well documented. Briefly put, the early issues involve navigation of the Tennessee River and its tributaries, flood control throughout this watershed, and an organized conservation effort that sought to check and reverse the spoiling of soil, forest, and water resources. Later concerns entail public ownership of hydroelectric power; producing nitrates for defense; manufacturing low-cost fertilizers for Southern agriculture; improving federal and state regulation of electric rates; and providing work during the Depression on projects that engendered TVA widespread support in the Tennessee Valley. Finally, the board controversy culminated in the aforementioned congressional inquiry, while the power fight ended when the Supreme Court affirmed the Authority's constitutional standing and its legal right to generate and sell electricity.

In 1824, as part of the nation's first internal improvements bill, Congress granted 400,000 acres of land to the State of Alabama to facilitate improved navigation on the Tennessee River at Muscle Shoals, located in northern Alabama. A few miles above this point the river fell 100 feet, creating impassible rapids and shoals. These barriers, combined with widely fluctuating water flows, blocked the use of steamboats along much of the river and thus constrained the waterway's development as a major transportation route.⁶⁹ Subsequent efforts to reduce flooding

⁶⁸Wheeler and McDonald, *TVA and Tellico Dam*, 3-23 passim.

⁶⁹Droze, *High Dams and Slack Waters*, 3-18.

and increase the river's navigability occurred intermittently throughout the nineteenth century. The conservation movement, which emerged in the 1870s and 1880s and became a part of Progressive-era reform, broadened its emphasis to include the conserving of lands that had hydroelectric possibilities. These advocates considered the Muscle Shoals area, largely because of its adequate water flows and the height of its falling water, as one of the finest potential sites in the eastern United States.⁷⁰ Starting in World War I with administration approval and congressional authorization of Wilson Dam at Muscle Shoals, what became the TVA idea emerged after impassioned debate and controversy over the holdings at Muscle Shoals. Originally pushed for national defense, this idea would also encompass the goals of fertilizer manufacturing, industrial development, and the creation of low-cost public power to measure the rates charged by private utilities. Waterpower development would also lead to soil and forest conservation, and flood control.⁷¹

The Progressive-era reform impulse slowed dramatically because of the war, disillusionment over the peace treaty, and domestic postwar violence. The 1920s saw the emergence of associationalism as a way to bring order to the nation's economy. During the Harding and Coolidge administrations and as president himself, Herbert Hoover sought to reconcile the centralizing tendencies of industrialization with the

⁷⁰In the working draft of Swidler, *In Power: The Memoirs of Joseph C. Swidler*, page proofs, uncorrected version, Special Collections Library, University of Tennessee, Knoxville, Tennessee, Swidler points out that the important physical features of a possible hydroelectric site are the amount and regularity of water flows, the height of the falling water, or "head," and the stability of the geological foundation upon which the dam is built. For example, Wilson Dam at Muscle Shoals has 100 feet of head and average flows of about 25,000 cubic feet per second. Other factors include site suitability, the cost of building the dam, and the distance needed to transmit the generated power to transmission lines that carry the electricity to market.

⁷¹Tindall, *Emergence of the New South*, 446.

individualistic postulates of republican government. The historian Ellis Hawley argues that Hoover's desire to "forge a new synthesis between managerial and libertarian values" relied mostly upon management techniques and less upon state institutions. In effect, business would control itself and balance the market forces of supply and demand. Government would play a secondary role.⁷² This approach presumed that business would act for its own good and for the public good. While the former occurred frequently, the latter seldom happened.⁷³

One notable example of this business-first, public-last mentality is the Muscle Shoals controversy. From 1920 to 1932 Congress debated the issue of federal ownership of the Muscle Shoals properties, which cost some \$134 million.⁷⁴ During this period, Sen. George W. Norris emerged as the leading proponent of public control. Through his efforts as chairman of the Committee on Agriculture and Forestry, Congress rejected various schemes to sell these holdings for a relative pittance. The industrialist Henry Ford, claiming to act in the guise of "a desire for great public service," made the most audacious of these offers.⁷⁵ First proffered in July 1921 and withdrawn in October 1924, Ford would have gained all of the Muscle

⁷²Ellis W. Hawley, ed., *Herbert Hoover as Secretary of Commerce: Studies in New Era Thought and Practice* (Iowa City: University of Iowa Press, 1981), 10-12. The quote appears on page 11.

⁷³Examples of this include the Teapot Dome scandal, the Florida real-estate fraud, and the reckless speculation of banks and brokerage houses in the securities markets.

⁷⁴These properties were developed through congressional and administration action, beginning with the passage in June 1916 of the National Defense Act. The holdings consisted of Wilson Dam and its hydro-generating plant, two chemical plants, two steam-generating plants, and hundreds of well-built homes. The figure of \$134 million is derived from Hubbard, *Origins of the TVA*, 28-30, and is calculated in this way: \$45 million to complete both Wilson Dam and dam No. 3 (the later location of Joe Wheeler Dam); \$82 million for the two nitrate plants; \$5 million for the steam plant and transmission line located at Gorgas, Alabama; and \$2 million for the personal property.

⁷⁵Other private power and chemical firms, most notably the Alabama Power Company, also tried to obtain the Muscle Shoals holdings. These unsuccessful efforts are described in Hubbard, *Origins of the TVA*, 147-216.

Shoals properties, several thousand acres of undeveloped land for real-estate speculation, and the power potential of Wilson Dam and what later became Joe Wheeler Dam—both constructed with government funds. For all of this Ford would have paid just under \$7 million in one-time and yearly payments, while agreeing to produce fertilizer for southern farmers at a profit ceiling of 8 percent.⁷⁶

Ford's one-sided offer, however, paled in comparison to the abuses perpetrated by holding companies.⁷⁷ These were unregulated corporations that were established to own and control electric and natural gas utilities. While the utilities, the "operating companies," provided the necessary services, the holding companies controlled these utilities for a fraction of their true value. As Joseph Swidler, longtime TVA legal counsel, explains: "A typical large holding company," such as Commonwealth & Southern, "owned all or a controlling share of the common stock of several large operating companies." Holding company executives accomplished this through the sale and manipulation of the stocks, bonds, and securities of both the utilities and the holding companies. During the 1920s holding companies sought to profit from the decade's uneven economic growth. They issued so many securities

⁷⁶The most thorough treatment on this controversy is Hubbard, *Origins of the TVA*, 27-146. The Ford quote is found on page 42. In addition, the cost to the government does not take in the various tax advantages, such as forms of depreciation, which Ford and the Ford Corporation would have enjoyed.

⁷⁷Joseph C. Swidler, *Power and the Public Interest: The Memoirs of Joseph C. Swidler*, edited and annotated by A. Scott Henderson (Knoxville: The University of Tennessee Press, 2002), xv-xvii, 1-3, 6-7. Born in 1907 in Chicago, Swidler earned his law degree from the University of Chicago in 1930. From an early age and as a young lawyer he was drawn to using the law to reform some of the worst abuses in American life, including segregation, prejudice against Jews, and business corruption. He joined TVA's legal staff in 1933 and served as the Authority's General Counsel from 1945 to 1957. He chaired the Federal Power Commission from 1961 to 1966 and the New York State Public Service Commission from 1970 to 1974. In both of these cases, he is credited with invigorating these agencies through cleaning up lax practices and previous abuses. Swidler died on May 2, 1997.

that they outstripped the earning power of the operating companies.⁷⁸ As holding companies established various levels, or “tiers,” many executives engaged in such further exploitation as pocketing of operating company profits, and collecting various service and management fees. These and other practices had the effect of shrinking the earnings per share of both the holding companies and the utilities. As these values dropped, more stock was sold to pay interest on outstanding issues—an example of the notorious “Ponzi gambit.” When the stock market began plunging in October 1929 and continued falling throughout the early 1930s, “the effect was a collapse of the market for holding company securities, some bankruptcies, and appalling losses to hundreds of thousands of people who had invested in this paper Golconda.” The abuses of holding companies, while not the only speculative disaster of the 1920s, helped bring about economic collapse and calls for far-reaching change.⁷⁹

Throughout the 1920s, as Norris helped preserve the Muscle Shoals properties for the common weal, the Republican senator from Nebraska fought for his goal of public development and stewardship of the Tennessee Valley’s water and forest resources. Beginning in 1922 and continuing for the next ten years, Norris advanced legislation to achieve this purpose. Although these measures did not become law,

⁷⁸These abuses are explained further in the working draft of Swidler, *In Power: The Memoirs of Joseph C. Swidler*, 27-29. On pages 27-28, Swidler gives this illustration: “Control of the operating companies through a holding company could be accomplished with much less money than owning a controlling interest in each of the operating companies directly, because the stock of the operating companies became the basis for the issuance of stocks, bonds and other securities by the holding companies. If, for example, a utility was financed with forty percent of common stock and sixty percent of bonds, and if it required ownership of twenty-five percent of the stock of the utility to assure control, the result was that ten or fifteen percent of the total capital would control the company.”

⁷⁹*Ibid.*, 27-29. The “Ponzi gambit” was named for the practitioner of this illegal scheme, and he did prison time in the 1930s.

Norris ultimately achieved two objectives. He helped shift public and congressional sentiment toward public ownership and operation of the Muscle Shoals properties, and he bolstered support for governmental efforts to develop and conserve the Tennessee River watershed. These bills also contained elements that, owing largely to Roosevelt's political dexterity, were later incorporated into the TVA Act.⁸⁰ The 1932 election, ending in Roosevelt's victory and large Democrat majorities in Congress, finally gave Norris the administrative and congressional support needed to achieve his objective.⁸¹ When TVA was created in May 1933, it had a regional focus and various responsibilities in developing a drainage area in seven states. The Authority dealt with navigation, flood control, manufacture of fertilizer, generation and distribution of electrical power, and conducting surveys for the economic, physical, and social backing of these areas. There was much to be done. As the historian Dewey Grantham notes, "The region's depressed agriculture and colonial economy certainly provided a great challenge to the New Deal's recovery programs and reform efforts."⁸²

The Authority, seen as an example of an ideological split between the Democratic and Republican parties, had its share of both detractors and supporters.

⁸⁰Paul K. Conkin, "Intellectual and Political Roots," in Hargrove and Conkin, eds., *TVA: Fifty Years*, 3-34. In this article and in his 1967 book *The New Deal*, Conkin takes pains both to minimize Roosevelt's substantive contribution to the 1933 TVA Act and to chide his lack of intellectual depth on various matters. Looked at differently, Roosevelt's political skills were vital in getting this bill through Congress. His emphasis on rejuvenating a vast watershed shifted the debate from its 1920s focus on fertilizer and public power, thus facilitating the measure's approval. Moreover, FDR showed deft legislative timing by introducing the bill during the first Hundred Days, a period when legislators were amenable to passing legislation quickly.

⁸¹Schlesinger, *Age of Roosevelt*, vol. 2, 324. Returning from a trip to Muscle Shoals in January 1933, Norris was asked, "Is he really with you?" "He is more than with me," Norris told journalists, "because he plans to go even farther than I did."

⁸²Dewey W. Grantham, *The South in Modern America: A Region at Odds* (New York: HarperCollins Publishers, 1994), 153-56. The quote appears on page 156.

Private utilities criticized the agency, saying that government backing gave it an edge in setting rates for electricity. Other critics, believing that federal monies would destroy businesses, viewed TVA as a harbinger of socialism.⁸³ Some southerners such as the literary critic Donald Davidson resented the paternalistic attitudes and goals of uplift. On the other side the Authority had the political support, notably the backing of the Roosevelt Administration, to establish itself. The agency was soon viewed as a dynamic force in rejuvenating the region. Moreover, as engineering achievements tamed the Tennessee River, TVA spurred dreams of progress in the Tennessee Valley and of “promoting the South’s industrialization and economic growth.”⁸⁴

The Authority also was the result of a national debate that had raged since the early years of the Republic.⁸⁵ The main tenet of classical liberal philosophy—the greatest freedom for the individual with the least interference by government—became cornerstones of America’s political and economic systems: republican democracy and free-enterprise capitalism. These ideas emerged in the 1700s when, first as colonists then as Americans, virtually all citizens wrung their subsistence from the land. The rise and progress of industrialization in the 1800s, with its wedding of scientific discovery to technological development, eventually wrought a socioeconomic transformation. By 1920 most Americans worked for wages, bought what they needed and wanted, and lived in what the Census Bureau defined as “urban

⁸³Schlesinger, *Age of Roosevelt*, vol. 2, 326. Rep. Joe Martin, R-Mass., criticized the TVA measure, saying it was “patterned closely after one of the soviet [sic] dreams.”

⁸⁴Grantham, *South in Modern America*, 153-57. The quote appears on pages 156-57.

⁸⁵The ramifications of the conflict between the “pastoral ideal” and a primarily urban, industrial America are described in Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford Press, 1964).

areas.”⁸⁶ This transformation, accelerated by the growth of industrialization in the nineteenth century between 1865 and 1900, exposed and exacerbated the conflict between democratic postulates formed in a pre-industrial period and the later emergence of business combinations that possessed immense wealth and political power.

In *The New Deal and the Problem of Monopoly*, the historian Ellis Hawley points out the contradiction located at the heart of this battle. An industrial economy is “necessarily based upon a high degree of collective organization,” while a fundamental aspect of America’s heritage is “democratic postulates, competitive ideals, and liberal individualistic traditions inherited from the nineteenth century.”⁸⁷ In effect, the nation wanted to mix the oil of economic growth with the waters of political liberty and not have them separate. “Americans wanted a stable, efficient industrial system,” Hawley notes, “one that turned out a large quantity of material goods, insured full employment, and provided a relatively high degree of economic security.” Concomitant with this, Americans “wanted a system as free as possible from centralized direction, one in which economic power was dispersed and economic opportunity was really open, one that preserved the dignity of the individual and adjusted itself automatically to market forces.” What was the best way to do this? “Did the situation call for centralized planning and detailed regulation?” Hawley asks. “Did it call for a restoration of competition? Or did it call for government-sponsored cartels that could rationalize the competitive process and

⁸⁶One of the best overviews of this transformation remains Robert Wiebe’s *The Search for Order, 1877-1920* (New York: Hill & Wang, 1967).

⁸⁷Ellis W. Hawley, *The New Deal and the Problem of Monopoly: A Study in Economic Ambivalence* (Princeton: Princeton University Press, 1966), vii, 473.

weather deflationary forces?” Because of various pressures, government addressed all of these questions during the New Deal.⁸⁸

Yet Roosevelt was never committed to a planned economy and realistically, as Hawley argues, the President could not be so committed. The Depression had prompted a national outcry: the federal government must take the lead in providing relief, recovery, and reform. Most Americans, however, still believed in free-enterprise capitalism; they wanted it fixed, and not replaced by socialist approaches that emphasize state planning and control. This is why, as Hawley notes, most of the New Deal’s plans and programs made more sense politically than economically. America could not turn backward to a decentralized, locally based economic structure without exacerbating the Depression and causing economic chaos. Any administration that tried to do this would be politically destroyed.⁸⁹ Americans wanted freedom *and* abundance, a point succinctly made by Rep. Maury Maverick, a Texas Democrat: “To put it in plain language, we Americans want to talk, pray, think as we please—and eat regular.”⁹⁰

TVA emerged from this cauldron of political and economic debate. Sen. Norris and President Roosevelt envisioned an Authority that would develop the Tennessee River watershed as an entire unit. The agency would coordinate the separate tasks of hydroelectric power, navigation, flood control, reforestation, rejuvenation of agriculture, and the stimulation of industrial growth and development. Roosevelt, notes the historian William Leuchtenburg, perceived the separate interests

⁸⁸Ibid., vii-viii.

⁸⁹Ibid., 475-76.

⁹⁰Schlesinger, *Age of Roosevelt*, vol. 2, 143.

of hydroelectric power, manufacture of fertilizers, and flood protection and soil erosion as a complete whole. Moreover, both Norris and Roosevelt desired that the agency should have the legal authority and the administrative setup to accomplish these objectives. In his April 1933 message to Congress, Roosevelt called for TVA to be a “public corporation with the powers of government but the flexibility of a private corporation.”⁹¹

At its inception TVA was charged with two mandates. First, the agency was to fulfill such specific responsibilities as build and operate dams for flood control and navigation; generate, transmit, and sell electric power in such a way as to influence the pricing of such power by private electric companies (the “yardstick”); develop, produce, and distribute various types of fertilizer to help replenish the region’s soils; spur reforestation and reclamation of marginal lands; foster agricultural and industrial development; and prevent soil erosion.⁹² Second, the Authority was to perform social and regional planning for the future, and the law creating the agency did not define what this meant or how it was to be done. As the historian Richard Lowitt points out, “No other agency previously established received as broad a mandate from Congress.”⁹³ Rexford G. Tugwell, one of the New Deal “brain trusters,” recalls a meeting held in the fall of 1933 between himself and TVA’s three directors. Arthur Morgan, Harcourt Morgan, and Lilienthal sought Tugwell’s opinion on whether the

⁹¹Leuchtenburg, *Roosevelt and the New Deal*, 54-55.

⁹²Lowitt, *George W. Norris*, 18-19.

⁹³Lowitt, “The TVA,” in Hargrove and Conkin, *TVA: Fifty Years*, 35-36. Sections 22 and 23 of the TVA Act enable the Authority to make analyses of the region and prepare reports for Congress and interested states “for the general purpose of fostering an orderly and proper physical, economic, and social development,” and provide for “the economic and social well being of the people living in said river basin.”

Authority was “supposed to be a government, a planning and coordinating agency, or a public corporation devoted to certain specific tasks.” Tugwell argues that they did not know because Roosevelt had not sufficiently thought through the ramifications of TVA in relation to American politics and to federal governance.⁹⁴ Unlike such agencies as the Federal Trade Commission and the Federal Power Commission, for example, TVA’s legal charter did not give it quasi-legislative and quasi-regulatory functions. As Leuchtenburg concludes, TVA was the only New Deal agency that approximated the idea of planning and this was more in appearance than in substance.⁹⁵

These contradictory mandates soon engendered a clash of opposites among the first board members. President Roosevelt named Arthur Morgan as chairman on May 19, 1933. Nearly one month elapsed before the other directors were appointed: Harcourt Morgan and Lilienthal. In that time, Lowitt notes, Arthur Morgan “made decisions and in effect was general manager of the agency.” At the first board meeting on June 16, H.A. Morgan and Lilienthal justly refused to ratify the early actions of Arthur Morgan, which they thought represented bad administration. They forced a division of responsibilities among the board: A.E. Morgan concentrated on engineering and dam construction and broad-scale planning for the Valley, H.A. Morgan oversaw the Authority’s agricultural programs, and Lilienthal directed the

⁹⁴Tugwell and Banfield, “Grass Roots Democracy—Myth or Reality?” 47. In this 1950 review of Philip Selznick’s *TVA and the Grass Roots*, Tugwell again showed his predilection for planning and again lamented the New Deal’s failure to establish centralized planning for the American economy. In discussing TVA’s case on page 50, he refers to this missed opportunity when he says that after 1936 the Authority “should have been called the Tennessee Valley Power Production and Flood Control Corporation.”

⁹⁵Leuchtenburg, *Roosevelt and the New Deal*, 164-65.

power program and TVA's legal department.⁹⁶ Each of them made lasting contributions in his area of expertise. Arthur Morgan established the practice of TVA hiring its own engineers and workers to build the Authority's dams, steam plants, and other structures. This "force account" practice proved far more honest and cost-effective than the "cost plus" method.⁹⁷ Harcourt Morgan directed the Authority's production of phosphate fertilizers, the establishment of test-demonstration farms, and the implementation of various methods of soil conservation and afforestation. These practices rejuvenated much of the valley's farms and forests. Lilienthal set up and administered the Authority's power program that, despite utility opposition, extended the benefits of low-cost electricity throughout the Tennessee Valley. He also fought for TVA in its numerous battles against private and government interests. As Swidler puts it, "Without Lilienthal, there would be no TVA today."⁹⁸

This division between the first directors foreshadowed deeper conflicts. Arthur Morgan's utopian "plans for the reordering of life in the Valley," notes the historian Arthur Schlesinger, Jr., collided with the realistic perspectives of H.A. Morgan and Lilienthal. H.A. Morgan "had seen too many strangers come into the Valley with benign schemes for local improvement." Lilienthal was also distrustful of overhead planning. "There is something about planning," he once said, "that is

⁹⁶Lowitt, "The TVA" in Hargrove and Conkin, *TVA: Fifty Years*, 38-40.

⁹⁷Davis: *FDR: Into the Storm*, 179. With cost plus, the builder receives the cost of construction plus a profit. This practice often leads to cost overruns due to corruption and land speculation. TVA's method meant that dams and other large structures could be built at or below cost. As Davis points out, "Roosevelt knew that the hard-cash cost-benefit ratio was so strongly favorable to TVA . . . that the agency had growing support in conservative quarters initially hostile to it."

⁹⁸Swidler, *Power and the Public Interest*, 35.

attractive to that type of person who has a yen to order the lives of other people.”⁹⁹ Lilienthal was also aghast at Arthur Morgan’s desire for friendly relationships with private utilities. From his service on the Wisconsin Public Utilities Commission, Lilienthal knew the clout that utility interests could wield.¹⁰⁰ Lions would nuzzle lambs before private utilities willingly cooperated with the Authority, he believed. When Arthur Morgan pressed for such cooperation and conciliation, Lilienthal and H.A. Morgan in August 1933 formed a coalition against the chairman.¹⁰¹ Thus, the split between the interests and perspectives of Morgan and his fellow directors, evident at their first meeting, widened over the next five years. By early 1938 Arthur Morgan had repeatedly and publicly attacked the integrity of his fellow directors, prompting Roosevelt’s intervention and the subsequent congressional inquiry.

In addition to internal conflicts, private utilities sought through litigation to cripple TVA’s power program in particular and the agency in general. Given the Supreme Court’s jaundiced view of New Deal programs during Roosevelt’s first term, the utilities believed they had a favorable legal environment to accomplish their goals.¹⁰² The first major attempt was *Ashwander v. Tennessee Valley Authority*, a suit

⁹⁹Schlesinger, *Age of Roosevelt*, vol. 2, 327-31. The quotes appear on pages 328, 330, and 331.

¹⁰⁰For an overview of Lilienthal’s tenure on this panel, see Neuse, *David E. Lilienthal*, 41-66. Lilienthal served from February 1931 until early June 1933, when he was named to the TVA board.

¹⁰¹Schlesinger, *Age of Roosevelt*, vol. 3, 363-64. In a 1933 letter to Lilienthal, Felix Frankfurter stated that Arthur Morgan’s proposal “is fraught with every kind of danger, is wholly unscientific in proposing commitments at this stage of the development, and disregards past experience and the social purposes back of the legislation.”

¹⁰²The material in the remainder of this paragraph comes from Joseph C. Swidler, “Legal Foundations,” in *Martin, TVA: The First Twenty Years*, 29-34. The quotes appear on pages 31 and 33. In 1935, the *Schechter* decision invalidated the National Recovery Administration. In the 1936 *Butler* case, the court ruled that the Agricultural Adjustment Administration was unconstitutional.

brought in 1934 by stockholders of the Alabama Power Company. The plaintiffs sought to have the TVA declared unconstitutional, charging that the federal government was establishing a “power empire.” The case, heard in Birmingham, Alabama, in United States District Court, was narrowed to the issue of TVA’s disposal of power generated at Wilson Dam. Judge William I. Grubb issued a broad injunction against the Authority, a decision later reversed by the Fifth Circuit Court of Appeals. The Supreme Court in 1936 upheld the circuit court’s decision, but did not rule on the constitutionality of the agency’s power program. Later that year eighteen companies banded together to sue the Authority. In this case, *Tennessee Electric Power Co. v. Tennessee Valley Authority*, the plaintiffs sought to have the Authority’s power program declared unconstitutional. The three-judge district court ruled for TVA and its system of dams, its hydroelectric program, and the multiple purposes of navigation, flood control and generation of power contained in the TVA Act. The district court also held that “the construction of the TVA projects and the power they generated came within the national defense, commerce, and property clauses” of the Constitution. The Supreme Court in January 1939 dismissed the TEPCO suit and with this ruling, “the last of the major constitutional attacks on TVA” had been thwarted.

TVA’s tumultuous first years left their mark on the Authority in various ways. Arthur Morgan’s dismissal and the upholding of the Authority’s power program accelerated the ascendancy of the agency’s power division. Although reappointed as

The congressional joint committee estimated that from TVA’s establishment through June 30, 1938, the Authority spent \$518,159 in litigating “the 41 actions questioning the constitutionality of the Tennessee Valley Authority Act.” See Special Joint Committee, *Report*, page 8.

chairman in May 1939, Harcourt Morgan had been physically slowed by both the board controversy and the congressional inquiry. Lilienthal contracted undulant fever and spent nearly nine months recuperating. In the summer of 1939, Lilienthal thought of resigning because of the unsettled board situation and dissatisfaction with his work.¹⁰³ Despite internal ordeals and the interference of outside interests, TVA carried out its work. As the historian Kenneth Davis notes, less than 250,000 people had electricity in the Tennessee Valley in 1933 and of that total, more than 97 percent resided in towns and cities. When TVA began, fewer than 3 percent of the Valley's farms had electricity. By 1938, however, more than two million people would be "served by TVA electricity brought them through 160 local distributors owned by them—110 municipal systems, [and] fifty rural cooperatives." TVA officials were proven correct—an ample supply of cheap power would create a demand for its use. The Authority produced electricity at a price per kilowatt-hour that was half of the national average. Electricity use per capita in the valley was twice that of the national average: in other words, "lowered rates that stimulate greatly increased electricity sales, along with increased purchases of all manner of electric appliances, resulted in increased total profits."¹⁰⁴

The unfavorable court rulings, meanwhile, reluctantly prompted Commonwealth & Southern in early 1938 to enter into negotiations with TVA for the

¹⁰³Undulant fever, medically known as brucellosis, is an infectious disease that attacks the lymph nodes and glands. The symptoms include irregular high fever, aches in both bones and joints, and profuse sweating. Antibiotics had just been developed in the 1930s and the sulfonamides used to treat the condition had mixed results. After contracting the disease in late August 1938—a result of drinking tainted milk—Lilienthal spent the rest of that year and the first four months of 1939 recuperating from his illness.

For Lilienthal's discussion about his future, see *Journals*, 114-16.

¹⁰⁴Davis, *FDR: Into the Storm*, 179.

Tennessee Electric Power properties. After months of hard bargaining and overcoming congressional opposition, the sale was formally consummated in mid-August 1939.¹⁰⁵ The properties cost \$78.6 million, of which the Authority paid approximately \$45 million and the municipalities and cooperatives served by the agency paid more than \$33 million. From this, the TVA system gained five hydro plant and three steam plants—totaling 225,000 kilowatts of capacity—along with TEPCO’s transmission system.¹⁰⁶ At the end of the fiscal year 1938 (July to June), the Authority’s power system contained 420,000 kilowatts of generating capacity.¹⁰⁷ One year later, that figure had been increased to 719,000 kilowatts. As events later proved, TVA needed all of this capacity and more to handle the growing demands for electricity in the Tennessee Valley.

While the Authority dealt with its domestic challenges, world affairs were rapidly deteriorating. The historian Alonzo Hamby argues that Roosevelt’s views on foreign policy were a mixture of philosophies formed both through family ties and his government service during the First World War. They consisted of Theodore Roosevelt’s ideas of national self-interest and America’s need to play a large role in world affairs, along with Woodrow Wilson’s dream of a peaceful world order. The latter would be an entity “united in adherence to a supranational body and striving to

¹⁰⁵A brief summary of the negotiations can be found in Swidler, *Power and the Public Interest*, 48-51. The sale scene is described in Lilienthal, *Journals*, 119-21. The fight over congressional approval for the bond issue is contained in Lilienthal, *Journals*, 109-114, and Lowitt, *George B. Norris*, 276-82.

¹⁰⁶Tennessee Valley Authority, “Annual Report of the Tennessee Valley Authority for the Fiscal Year Ended June 30, 1939,” 52-53, 61-62. The Authority acquired Ocoee No. 1 and Ocoee No. 2 dams on the Ocoee River; Blue Ridge dam on the Toccoa River in Georgia; Great Falls dam on the Caney Fork River; and Hales Bar dam on the Tennessee River. The steam plants were located in Nashville, Hales Bar, and Parksville, Tennessee.

¹⁰⁷Tennessee Valley Authority, “Annual Report of the Tennessee Valley Authority for the Fiscal Year Ended June 30, 1938,” 72.

meet the needs of all mankind rather than engaging in petty struggles for national advantage.” During his first two terms, however, Roosevelt vacillated between these outlooks in the face of strong isolationist sentiment and a shift in the political landscape.¹⁰⁸ The historian Robert Divine notes that as Europe and Asia slid toward war between 1935 and 1939, Roosevelt was increasingly torn between a growing awareness of the danger to the United States and his “fundamental aversion to war.”¹⁰⁹ A preponderance of Americans, however, did not share Roosevelt’s dilemma; they reacted by wanting nothing to do with overseas conflicts. Congress reflected this mood by passing five neutrality laws between 1935 and 1939. This legislation, notes the historian David Kennedy, virtually shut off arms sales and loans to all belligerents and banned Americans from traveling on vessels controlled by nations at war. The laws also imposed severe restrictions on the purchase of raw materials and “nonmilitary” commodities, such as oil and copper, from the United States. Warring nations that wished to buy such goods had to pay for them in cash and provide their own ships to haul these commodities from American ports.¹¹⁰

Changing political realities in Roosevelt’s second term provided another complication. During 1937 and 1938 the Supreme Court controversy, the “Roosevelt Recession,” and the ill-fated attempt to elect more liberal Southern congressmen cost FDR much political support. Congress became more conservative as a coalition of Southern Democrats and Republicans effectively blocked further expansion of New

¹⁰⁸ Alonzo L. Hamby, *Liberalism and its Challengers: From F.D.R. to Bush*, second ed. (New York: Oxford University Press, 1992), 37-38.

¹⁰⁹ Robert A. Divine, *Roosevelt and World War II* (Baltimore: Johns Hopkins Press, 1969), 1-23, *passim*. The quote appears on page 10.

¹¹⁰ Kennedy, *Freedom From Fear*, 394-96.

Deal reforms.¹¹¹ The congressional revision of the Neutrality Act, which Roosevelt signed into law in November 1939, preserved the cash-and-carry provisions of the 1937 law and effectively closed off the North Atlantic to American merchant ships. Lawmakers sought to prevent the possibility of an incident that would lead to war. This debate also demonstrated how much the political situation had changed since the President first took office. Southern Democrats, who were hostile to further domestic reform, supported the bill while most of the liberal coalition that supported the New Deal, especially the progressive Republicans, voted against the measure.¹¹²

Adolf Hitler's belligerent acts between 1933 and 1938 prompted only cautious moves from the Roosevelt Administration, because the President feared retaliation from a Congress laden with isolationists and non-interventionists. In October 1937, FDR incurred a nasty political backlash for suggesting that democratic nations act in concert against belligerent nations. This "quarantine the aggressors" speech outraged isolationists. Their intense criticism prompted Roosevelt to reverse his position and this backtracking deepened British distrust of America's commitment to check the aggressors.¹¹³ On December 12, 1937, in broad daylight, Japanese planes strafed and sank the U.S. gunboat *Panay* while it lay at anchor in the Yangtze River. The predominant American reaction to this attack was an increased effort by

¹¹¹This shift is described in James T. Patterson, *Congressional Conservatism and the New Deal: The Growth of the Conservative Coalition in Congress, 1933-1939* (Lexington: University of Kentucky Press, 1967).

¹¹²Kennedy, *Freedom From Fear*, 433-34. On page 434, Kennedy writes, "The North Atlantic was Britain's historic lifeline and America's traditional shield. With the flourish of his pen . . . Roosevelt swept that sea more cleanly of American ships than a thousand torpedoes could have done."

¹¹³*Ibid.*, 406. In the fall of 1937, soon after Roosevelt's October speech, a nine-nation conference failed to reach accord on collective action to resolve the Sino-Japanese war. A sister of British Prime Minister Neville Chamberlain, doubtful of U.S. dependability, remarked that the Americans were "hardly a people to go tiger shooting with."

congressional Democrats to approve and to ratify the Ludlow Amendment. This bill would have further constrained the executive and legislative branches in relation to waging war, if necessary. It required intense administration lobbying efforts to narrowly defeat the measure.¹¹⁴ Therefore, in relation to American military preparedness, the period from early 1938 to late August 1939 was characterized by cautious moves. Those advocating timely and increased action regarding collective security and mobilization were, despite their prominence, reflecting a minority view.¹¹⁵

Analyzing the threat posed by the future Axis Powers, the War Department in early 1938 recommended that America begin preparing for war. In March the Assistant Secretary of War, Louis Johnson, sent two memorandums to Roosevelt for his consideration and approval. The first memo predicted a shortage of electric power by 1940 if military mobilization and “normal industrial activity” took place concurrently. Further complications involved the time needed to install new power equipment—at least eighteen months or more—and the sluggish pace of power construction due to the Depression. To alleviate this predicted shortage, the War Department urged faster construction and “substantially *increased interconnections* between power systems.” The department also recommended updating the 1935

¹¹⁴Ibid., 402-403, 405-406. The bill was named for Rep. Louis Ludlow, an Indiana Democrat. Except in case of invasion, this law would have required approval by a national referendum before America could declare war. The House of Representatives rejected the bill, 209 to 188, in early January 1938.

¹¹⁵Memorandum from Bernard M. Baruch to President Roosevelt, April 29, 1938; Official File 178; Munitions #1; Munitions, 1937-1939; Roosevelt Library. Address by George Norlin, “Our National Defenses,” April 18, 1938; Official File 335; National Defense #1; National Defense, 1937-1938; Roosevelt Library. Baruch in World War I chaired the War Industries Board, the agency in charge of the nation’s wartime economy. Norlin, then president of the University of Colorado, delivered his remarks at the university’s honors convocation.

survey of the national power industry, because “the power situation is sufficiently critical to justify a complete, accurate and up-to-date survey of the national power situation.”¹¹⁶ Later that month, Johnson argued for increased munitions production as part of military preparedness and he recommended appropriations of more than \$50 million.

Roosevelt knew that gathering information on power capacity would create less controversy than requesting more money for bullets and bombs.¹¹⁷ He authorized the Federal Power Commission, which conducted the 1935 survey, to compile the necessary information for the War Department.¹¹⁸ The Administration at one point shifted \$50,000 from another agency to provide the funds needed to complete the study.¹¹⁹ This confidential report was divided into two sections. The preliminary survey, which was completed by August, identified both existing sources of power and locations—regions and industrial areas—where shortages could occur. The second section, which was finished in December, contained estimates of power requirements through 1940, existing capacity for generating and transmitting electricity, an “analysis of regional power shortages with special reference to strategic

¹¹⁶Memorandum from Louis Johnson, Assistant Secretary of War, to the President: “Electric Power in War,” March 2, 1938. Official File 235; Federal Power Commission, 1938; Roosevelt Library. Johnson added the emphasis.

¹¹⁷Memorandum from Louis Johnson, Assistant Secretary of War, to the President: “Munitions Preparedness,” March 26, 1938. Official File 235; Federal Power Commission, 1938; Roosevelt Library. The War Department budget for fiscal year 1939 contained \$6,080,000 for this purpose. Johnson urged the Administration to request from Congress an additional \$43,920,000.

¹¹⁸Memorandum from President Roosevelt to the Federal Power Commission, March 18, 1938. Official File 235; Federal Power Commission, 1938; Roosevelt Library. Letter from President Roosevelt to the Secretary of War, April 1, 1938. Official File 178; Munitions #1; Munitions, 1937-1939; Roosevelt Library.

¹¹⁹Memorandum from D.W. Bell, Acting Director, Bureau of the Budget, to the President, May 23, 1938. Official File 235; Federal Power Commission, 1938; Roosevelt Library.

war-material centers,” and the estimated cost of increasing capacity both through new construction and increased interconnections.¹²⁰

At a September 1 conference, Roosevelt and some fifteen government officials dealing with military and power matters met at the White House to discuss the first part of the report.¹²¹ Its conclusions unsettled the President and the other participants, in part because of the power shortages experienced during the First World War. From late 1917 until the armistice a combination of increased demand, a fossil-fuels shortage, the requirements of such industries as munitions plants, and the reluctance of private utilities to finance plant expansion created power shortages for the industries located around Niagara Falls, New England, New Jersey, Pittsburgh and the cluster of factories in Philadelphia, Baltimore, and Wilmington, Delaware. By October 1918 the War Industries Board had resorted to rationing to provide the necessary electrical power.

The combination of supplying both wartime and peacetime requirements would mean that in 1939 and 1940, the demands for electricity would exceed the nation’s power capacity. From this, notes the historian Philip Funigiello, “widespread and critical shortages of generating capacity would occur.”¹²² The situation was most acute in existing locations of war production. In 1938 the main industries producing

¹²⁰Memorandum from Basil Manly, Commissioner in Charge, Federal Power Commission, to the President, April 22, 1938. Official File 235; Federal Power Commission, 1938; Roosevelt Library.

¹²¹Memorandum from Basil Manly, Federal Power Commission, to Louis Johnson, Assistant Secretary of War, August 15, 1938. Official File 235: Federal Power Commission, 1938; Roosevelt Library. In addition to Johnson and Manly, the attendees included Harcourt A. Morgan, TVA Director; Clyde L. Seavey, Chairman of the Federal Power Commission; Jesse Jones, director of the Reconstruction Finance Corporation; and Harold L. Ickes, Secretary of the Interior.

¹²²Federal Power Commission and War Department, “Confidential Memorandum on Shortages of Electric Generating Capacity for War-Time Needs,” July 1, 1938. Quoted in Philip J. Funigiello, *Toward a National Power Policy: The New Deal and the Electric Utility Industry, 1933-1941* (Pittsburgh: University of Pittsburgh Press, 1973), 230-31.

war materiel were concentrated east of the Mississippi River and north of Tennessee. This area, along with St. Louis, Missouri, and Birmingham, Alabama, composed the “fifteen principal centers for the production of war material. Together they accounted for 45 percent of the total installed [power] capacity of the United States.” The report cited 1940 as the critical year. If the world remained at peace, then the United States could keep on its present course. Even then, the FPC estimated that the power needed for “normal growth of the economy and the population” would be over 1.14 million kilowatts, and this could be achieved for \$172 million. If the nation went to war in 1940 it would need approximately five million kilowatts to supply the fifteen main wartime centers, at an estimated cost of \$733 million.¹²³

The Spanish Civil War, meanwhile, demonstrated the importance of having airplanes and tanks in large numbers. These weapons, used sparingly during the First World War, were employed with devastating effect in this conflict. In support of Francisco Franco’s troops German planes, among other atrocities, unleashed the devastating bombing of the Basque town of Guernicia. Meanwhile, the Soviet Union provided planes and tanks for the Republican side.¹²⁴ Manufacturing these weapons required such materials and chemical substances as aluminum, copper, magnesium, iron, steel, ferro-alloys, calcium carbide (for synthetic rubber) and nitrogen. These

¹²³Funigiello, *Toward a National Power Policy*, 232. The Tennessee Valley was considered part of the Birmingham war production area. The other areas were Baltimore and Washington; Boston, Cambridge and Lynn in Massachusetts; Bridgeport, Hartford, New Haven and Waterbury in Connecticut; the New York areas of Buffalo and Niagara Falls, Rochester, Schenectady, Albany and Troy, and New York City; Chicago and northern Illinois; Cincinnati, Dayton and Louisville; Cleveland; Detroit; Philadelphia, Wilmington, Delaware, and areas of New Jersey; Pittsburgh, Youngstown, and Akron; and St. Louis.

¹²⁴Alan Bullock, *Hitler and Stalin: Parallel Lives* (New York: Random House, Inc., 1993), 531-36.

products were created by electroprocess industries that, because of their power requirements, sought out locations suitable for the generation or purchase of cheap electricity. In September 1938 the Federal Power Commission released its report and accompanying press release concerning these vast power needs. In electrolysis, for example, electric current transforms common salt into chlorine and caustic soda. In 1936 the process for electrolytic chlorine used nearly 1.6 billion kilowatt hours, or the “equivalent to the electricity consumed by more than 2 million homes.” Using 1936 figures as a benchmark, the commission estimated that by 1943 these operations would need approximately one-third more power—from 13.3 billion to 17.8 billion kilowatt hours. The aluminum industry alone used 2.6 billion kilowatt hours in 1936 and was expected to consume 3.6 billion by 1943. Other products related to TVA’s operations, including calcium carbide and nitrogen, had estimated percentage increases of 200 and 130, respectively.¹²⁵

Two days after the September 1 conference, Roosevelt ordered the establishment of the National Defense Power Committee (NDPC)¹²⁶ to recommend ways of providing the needed electrical power to established wartime production centers. The committee concentrated on two methods: increasing generating capacity through construction of new dams and steam plants, and linking together the

¹²⁵Federal Power Commission, Release No. 522, “Power Requirements in Electrochemical, Electrometallurgical and Allied Industries,” September 17, 1938. Official File 235: Federal Power Commission; Federal Power Commission, 1938; Roosevelt Library. The quote appears on page 4.

¹²⁶Addendum to Memorandum from Basil Manly, Federal Power Commission, to Louis Johnson, Assistant Secretary of War, August 15, 1938; Official File 284; Power, 1938; Roosevelt Library. The members were Johnson, committee chairman; Manly; Frederic A. Delano, Chairman of the National Resources Committee; Harold L. Ickes, Secretary of the Interior; Charles Edison, Assistant Secretary of the Navy; and William O. Douglas, Chairman of the Securities and Exchange Commission and future Supreme Court justice.

respective private and public utility systems through interconnection by high-voltage transmission lines. Both methods were pursued but interconnection emerged as the preferred alternative. At this time, steam plants and dams for hydroelectricity required at least eighteen to twenty-four months to build. TVA's early dam-building program on the Tennessee River is instructive on this point. From the time of authorization it took three years to build Norris and Joe Wheeler dams, and four years to build Pickwick Landing, Guntersville, and Chickamauga dams.

The sluggish economy further complicated this needed expansion; the 1937 recession prompted private utilities "to suspend or cancel orders for additional generating equipment." This compelled the three companies that provided such needed equipment as boilers, turbines, and generators to lay off skilled workers.¹²⁷ Interconnection promised, in theory, to add capacity by pooling the resources of the affected power systems. Thus, the Federal Power Commission in the summer of 1938 recommended building "an interconnected network of high-capacity transmission lines," a system augmented by expanding hydroelectric and steam power. The Tennessee River and its tributaries were among the waterways the commission recommended developing.¹²⁸

Throughout the rest of 1938 and into the summer of 1939, the NDPC ran into two roadblocks, one financial and one technical, to putting long-distance

¹²⁷Funigiello, *Toward a National Power Policy*, 232-33. At this time the three companies, General Electric, Westinghouse, and Allis-Chalmers "produced 95 percent of the steam turbines and generators for the utility industry."

¹²⁸*Ibid.*, 234. The other waterways were the St. Lawrence, the Niagara, the Great Lakes, and the Susquehanna. A rival plan, backed by both the Army and Navy, pushed for constructing steam plants in each of the war production centers. The Federal Power Commission objected to this idea, because it would eliminate the more expensive grid system.

interconnection theory into practice. Just as in the First World War, private utilities were afraid to expand without assurance that future demand would justify such an expense. Such public power advocates as Judson King and Sen. George Norris worried that the private utilities would convince the federal government to pay for plant expansion, and then lease the expanded capacity to the utilities. Moreover, private interests would seek to discourage expansion of municipal-ownership movements.¹²⁹ Thus, when Johnson announced that the major utilities in the war manufacturing centers had agreed to expand generating capacity by one million kilowatts, public power advocates feared the worst. In November 1938, Norris wrote to Roosevelt and stated his objections to an imbalance between private and public power. “It seems so silly and preposterous that the Government should loan money to these private utilities on the one hand while they are using this same money to litigate the Government and get injunctions against the TVA.” Roosevelt had the Federal Power Commission draft a reply. In this letter, the President blamed the press for wrongly intimating “that the government, through the RFC, was to finance a large part of the cost.” On the technical side the main concerns included the ultimate cost, who would benefit from the expansion, and was long-distance interconnection feasible. Could electric power be transmitted in high voltages over hundreds of miles—to thirty-three cities in fifteen manufacturing centers—without causing breakdowns and outages? For example: On a 1939 map showing these relationships, it was proposed that a 275,000-volt transmission line run from Norris Dam, located

¹²⁹Ibid., 236-42. The Reconstruction Finance Corporation was often touted as the vehicle for this type of financing.

on Tennessee's Clinch River, to Cincinnati with a similar line linking Cincinnati to Chicago.¹³⁰

Throughout 1938 the Authority was primarily concerned with the Morgan-Morgan-Lilienthal controversy, the congressional inquiry, and the ongoing litigation with Commonwealth & Southern and its subsidiaries.¹³¹ Yet, in assessing the nation's power resources for wartime needs, the Roosevelt Administration viewed TVA as an important part of this overall picture. In late July and early August, the Authority provided the Federal Power Commission with essential data regarding TVA's power system.¹³² In December the Authority began top-level planning for the war effort,¹³³ as the TVA Regional Planning Council initially examined how the

¹³⁰See these documents from the Roosevelt Library: War Department press release, "National Defense Power Committee Increases Electric Utility Power," October 28, 1938; Official File 284; Power, 1938. Letter from Sen. George W. Norris to "My Dear Mr. President," November 3, 1938; Letter from Clyde L. Seavey, Acting Chairman, Federal Power Commission to the President, November 12, 1938; Letter from President Roosevelt to the Honorable George W. Norris, November 14, 1938; Memorandum from Ralph J. Watkins, Director, Energy Resources Study to Frederic A. Delano, Chairman, National Resources Committee, September 1, 1938; Map, "National Defense Power Program Interconnecting 275,000 Volt Lines," undated. These five documents are contained in Official File 3412; National Defense Power Committee, 1938-1939.

¹³¹One of these cases involved TVA's construction of the Hiwassee Dam. In October 1938 the Authority and the Southern States Power Company were engaged in a lawsuit over the condemnation of approximately 10,000 acres of land—the area where the Authority wanted to build the dam. TVA officials requested that Percy H. Thomas, regional director for the Federal Power Commission, testify on various issues, including "whether the land has any value for water power purposes." The Authority promised to reimburse the commission for Thomas's expenses. See Letter to Clyde L. Seavey, Chairman, Federal Power Commission from H.A. Morgan, Chairman of the Board, October 20, 1938. Found in TVA, RG 142, GM/Administration files; Records of the Tennessee Valley Authority, National Archives/Southeast Region, Record Group 142; File 050-9: Federal Power Commission, July-December 1938.

¹³²Memorandum to John B. Blandford, Jr., General Manager, from Theodore B. Parker, Chief Engineer, August 4, 1938; Memorandum to John B. Blandford, Jr., General Manager from J.A. Krug, Chief Power Planning Engineer, August 2, 1938. Both documents are contained in TVA, RG 142, GM/Administration files; Box 334; File 050-9: Federal Power Commission, July-December 1938. In the August 2 memo, the information the commission desired included such factors as "present and proposed transmission lines and generating plants, including size, capacity, and normal voltages," along with assessments of "the maximum kilowatt demands of primary power and secondary power expected on the Authority's system in 1938 and 1941 respectively."

¹³³Memorandum to John B. Blandford, Jr., General Manager from W.J. Hayes, Assistant to the General Manager, "Planning Council Discussion Re: Relationship of TVA Program to National

Authority could contribute to the nation's defense.¹³⁴ At this December 9 meeting the twelve participants, all high-ranking agency employees,¹³⁵ put forth ideas that conformed to the statutory provisions of TVA's charter: namely, those of navigation, flood control, electric power, and national defense. In his opening remarks Robert E. Sessions, senior attorney, emphasized that TVA "should develop policies that have a dual function, that is, take into consideration in their operation that they should be useful or operative both in wartime as well as times of peace." Moreover, this conversion from peacetime to wartime to peacetime had to occur with both dispatch and minimal disruption of existing operations. This principle—dual function and swift, efficient conversion and re-conversion—served two purposes. First, it became a standard by which TVA officials could evaluate the Authority's role in the nation's war effort. Second, this principle became a selling point in convincing Congress to expand TVA programs, especially those relating to the production of electric power.

At the meeting J. Haden Alldredge, director of the Commerce Department, listed TVA's potential contributions as "1. production of chemicals and munitions; 2. strategic minerals; 3. navigation; 4. electric power; 5. safety factor; 6. overall effect of

Defense Problem," December 9, 1938. TVA, RG 142, GM/Administration files, Box 240; File 000.41: National Preparedness and National Defense, Civilian Defense through 1939. At this time and throughout the war, the operating units and divisions reported to the general manager and he answered directly to the Board of Directors.

¹³⁴The information in this and the following two paragraphs is contained in "Comments on National Defense in Meeting of TVA Regional Planning Council, December 9, 1938." TVA, RG 142, GM/Administration files, Box 240; File 000.41: National Preparedness and National Defense, Civilian Defense through 1939. The two-page outline, "The Tennessee Valley Authority and National Defense," is found in Box 240, File 000.41: National Preparedness and National Defense, Civilian Defense through 1939.

¹³⁵In addition to Sessions and Alldredge, the participants included Earle S. Draper, director, Department of Regional Planning Studies; Clark Neil Bass, chief conservation engineer; Robert A. Monroe, head water plant engineer; Llewellyn Evans, chief electrical engineer; L.N. Allen, director, Department of Reservoir Property Management; Howard P. Emerson, associate industrial engineer; John C. McAmis, director of agricultural relations; Willis M. Baker, chief forester; Tracy B. Augur, chief of regional planning staff; and W.L. Sturdevant, director of information.

the program of the TVA on productive capacity of the region in an emergency.” The other participants expanded upon these factors that eventually proved advantageous in assessing the Tennessee Valley’s desirability for war production: its supply of various minerals; the importance of the Tennessee River in the nation’s transportation system; and the security advantages of the Valley when compared with the Atlantic, Pacific, and Gulf coasts. In a subsequent outline, other implications of the nation’s defense program were listed: varied agricultural uses for land; the need for forest resources, both existing and those rehabilitated; different agricultural industry programs that could have a defense benefit, such as cotton linters for gun cotton; and developing the Valley’s productive capacity through encouraging industrialization.

Authority officials refined this material throughout the first eight months of 1939.¹³⁶ On September 8, one week after Germany invaded Poland and five days after Britain and France entered the war, Roosevelt declared a state of limited national emergency.¹³⁷ Late that month the TVA Board sent a confidential memorandum to the President that outlined how the Authority could use its present programs and resources to aid the war effort. The material in this document reflected an outgrowth of the ideas proffered at the December planning meeting. The programs of navigation, waterway transport, flood control, power generation, fertilizer manufacture, and chemical production stayed within the Authority’s statutory framework. TVA’s resources included design, construction, and operation of dams,

¹³⁶Memorandum to John B. Blandford, Jr., General Manager from Forrest Allen, Assistant to Director [David] Lilienthal, April 10, 1939. TVA, RG 142, GM/Administration files, Box 240; File 000.41: National Preparedness and National Defense, Civilian Defense through 1939.

¹³⁷Robert E. Sherwood, *Roosevelt and Hopkins: An Intimate History* (New York: Harper & Brothers, 1948), 210.

plants and temporary housing; navigation and river control; power production; land acquisition; data on the valley's economic and physical resources; and trained technical and administrative employees. The memorandum ended with a reaffirmation of the principle of swift and efficient conversion and re-conversion, and the economic benefits predicted from this practice. "Wisely planned, the Valley's contribution in the emergency may be made the occasion for a permanent improvement of its regional housekeeping." The memorandum concluded that once the emergency ended, "instead of a depleted region super-imposing its woes upon the inevitable shock of 'normalcy,' a virile, well-balanced economy shall assist the nation in its orderly return to peace-time pursuits."¹³⁸

TVA's proposal forecast a smooth transition from peacetime to wartime. America's adjustment to the war was far more complicated. From September 1939 to December 1941, as Hamby notes, "Roosevelt's leadership consisted of constant interaction with an inconsistent, self-deceptive public mood." Germany's rearmament and territorial aggrandizement in the late 1930s gave Roosevelt an opportunity to increase the public's awareness of the perils of isolationism. But this path was not, and could not, be straightforward. The President, without getting too far ahead of public opinion, had to coax Americans into supporting increased aid to the Allies. "Opinion polls," Hamby notes, "which the President followed carefully,

¹³⁸Memorandum to the President from the Board of Directors of the Tennessee Valley Authority, "Functions of the Tennessee Valley Authority in Adjustments Required by National Emergency," undated. The late September date is established in Memorandum to D.E. Lilienthal, Board of Directors, from E.S. Draper, Director, Department of Regional Planning Studies, "Attached Statement on the Function of the Authority in the National Emergency," September 29, 1939. Both of these documents are in TVA, RG 142, GM/Administration files, Box 240; File 000.41: National Preparedness and National Defense, Civilian Defense through 1939.

demonstrated both vast sympathy for Great Britain and France and an equally widespread determination to stay out of the war.”¹³⁹ When Roosevelt gave one of his “fireside chats” on September 3, 1939, he addressed a nation that had become decidedly anti-Hitler. A Gallup poll that October showed that 84 percent of those responding identified themselves as pro-Ally, while just 2 percent called themselves pro-German.¹⁴⁰

But Roosevelt offered mostly moral support and little in terms of armed support. In an emergency meeting of the Cabinet on September 1, 1939, Roosevelt rejected the idea of raising a large enough army to send American troops to Europe. Yet the short-of-war strategy the Administration pursued required supplying the combatants against Germany with adequate amounts of munitions. Roosevelt was seduced by the idea of producing planes—lots of them—to arm the nations fighting against Hitler. As the historian David Kennedy notes, “Air power—especially air power delivered to the European democracies from American factories—seemed the ideal instrument with which the historically isolationist and chronically depressed United States could implement the short-of-war strategy.” Air power, it was hoped, could keep the nation at arm’s length from the fighting. Thus, Roosevelt in January 1939 asked Congress for \$300 million for aircraft construction. Such an idea, however, could not be implemented in time to stop Germany from overrunning Europe.¹⁴¹ Moreover, neither the Army nor the Navy would accept an imbalance between land, sea, and air forces. In addition, both Roosevelt and Britain and France

¹³⁹Hamby, *Liberalism and its Challengers*, 39.

¹⁴⁰Kennedy, *Freedom From Fear*, 427.

¹⁴¹*Ibid.*, 428-29.

worried about unleashing a political backlash through pushing the boundaries of neutrality legislation. The nations fighting the Nazis could neither seek credit—the Johnson debt-default law and the Neutrality Acts’s cash-and-carry provisions prevented this—nor did they want to exhaust their dollar and gold reserves. By mid-1939, France and Britain combined had ordered just fewer than fifteen hundred aircraft. The American military, meanwhile, was severely undermanned and undersupplied during 1939 and 1940. For fiscal 1940, the appropriation for defense was \$1.3 billion. While this amount was 50 percent higher than in 1939, it totaled approximately one-seventh of the federal budget. Even in May 1940, the American military had just fifty-two B-17 aircraft available for use.¹⁴²

The lull following Germany’s conquest of Poland, the so-called “Phony War,” ended abruptly in the spring of 1940. Between April 9 and June 17 the Nazis conquered six nations and, by forcing Britain’s hasty evacuation from Dunkirk, valuable weapons, machines and ordnance. British losses included “ninety thousand rifles, seven thousand tons of ammunition, and 120,000 vehicles.” In assessing Germany’s swift and crushing defeat of France, British Prime Minister Winston Churchill expressed his utter surprise at “the violence of the revolution effected since the last war by the incursion of a mass of fast-moving heavy armour.” Britain had counted on France to resist so that Britain could rearm. The United States had banked on France’s military, Britain’s navy, and America’s industry to keep America out of the fighting. In a little more than two months, German conquests made these

¹⁴²Kennedy, *Freedom From Fear*, 426-27, 431. The nations captured were Denmark, Norway, the Netherlands, Belgium, Luxembourg, and France.

assumptions moot. Despite the losses at Dunkirk, Britain battled on. Churchill's staunch leadership helped convince Roosevelt of Britain's will and its ability to resist. The President pushed for an increased defense buildup with the largest portion of the projected fifty thousand new airplanes going to overseas buyers.¹⁴³

Having enough electrical power to build these planes and other ordnance was something else entirely. Proponents of long-distance, large-scale interconnection held sway in the fall of 1939. They believed that implementing this long-term plan would create a dependable capacity of approximately 1.5 million kilowatts. Combined with other hydroelectric and steam-plant construction, the nation would have a dependable capacity of 4.6 million kilowatts.¹⁴⁴ But in the first six months of 1940, the interconnection idea was studied and found wanting as a swift way to add power. The technical problems—notably, projecting the amount of power the transmission lines could carry, switching of power loads from systems to lines, running high voltages on existing equipment, and transmitting large power loads over long distances—defied easy and rapid solution. The estimated cost of establishing such a network was put at \$380 million, with no guarantee of reliable performance.¹⁴⁵

¹⁴³*Ibid.*, 438-40, 446-48. Churchill's quote appears on page 439. With the military and others arguing for keeping the fruits of the new production at home, Roosevelt held fast. He knew that what he was doing was risky, based on his guess that the British would hold out. If they succumbed, he would take the brunt of the opprobrium that would certainly follow.

¹⁴⁴Memorandum, "Digest of Conclusions as to War Power Needs," page 2, September 5, 1939; Official File 2575; National Power Policy Committee, 1939; Roosevelt Library.

¹⁴⁵Minutes of National Power Policy Committee, "Interconnection Conference—Pittsburgh, Philadelphia, Detroit, Buffalo, Cincinnati," January 12, 1940; "Memorandum of National Power Policy Committee Conference with executive engineers of Eastern power companies," June 12, 1940. These documents are contained in Leland Olds Papers; Federal Power Committees, 1938-1944: 2. National Power Policy Committee, 1939-1940; Olds Papers, Federal Power Commission; Roosevelt Library. The committee, part of the Department of the Interior, was formed in July 1934 as an advisory panel to Roosevelt on power matters. The panel was re-invigorated in fall 1939 to study power needs and coordinate such production for defense purposes.

Because of these and other problems, Lilienthal and TVA's technicians rejected the interconnection plan and concentrated upon adding power capacity.¹⁴⁶

In late May of 1940 Lilienthal and Gordon Clapp, the Authority's general manager, traveled to Washington. They wanted to gain more information on national defense preparedness, and to ascertain the role of TVA and the Southeast region in contributing to this state of readiness. The Authority awaited the President's cue on what had to be done and how the agency could best contribute to that end.¹⁴⁷ The one person that had some idea of what Roosevelt wanted and what he was up against was Harry Hopkins, then Secretary of Commerce and Roosevelt's chief defense aide. Robert Sherwood, who worked with both men during the war, argued that starting in this period Hopkins provided valuable service as "the confidential contact man between Roosevelt and private citizens who were advocating some policy of which the President approved but which he did not want to advocate publicly at that time." Hopkins also served Roosevelt in another way, as noted by Harold Smith, director of the Bureau of the Budget. "Hopkins' sole job was to see everything from the President's point of view. He was bound by no preconceived notions, no legal inhibitions and he certainly had absolutely no respect for tradition."¹⁴⁸

¹⁴⁶Lilienthal, *Journals*, 168. Lilienthal scoffed at the interconnection plan, "because there were so many technical, contractual, and operating problems involved that it could not be done quickly, whereas putting generators and turbines in would get the power without any ifs and ands, that all of us knew where additional units ought to be installed; that the bottleneck was in production of equipment." Interconnection was feasible over short distances, however, and in the spring and summer of 1941, TVA proposed interconnection as one part of a plan to alleviate a severe power shortage in the Southeast.

¹⁴⁷Ibid., 165-66.

¹⁴⁸Both quotes are in Sherwood, *Roosevelt and Hopkins*, 157, 159. Between 1940 and 1945 Sherwood served as one of Roosevelt's chief aides and main speechwriters.

When Lilienthal met Hopkins at the White House on May 28, Hopkins emphasized the government was just beginning the process of accelerated wartime preparation. While there were numerous plans and ideas about, he said, many of them were unfeasible.¹⁴⁹ The key assumptions behind any plan, Hopkins maintained, were based upon four scenarios. First, there would be a long war, one that would end in a compromise peace. Second, the Allies would win in one to two years. Third, Germany would triumph quickly—a distinct possibility given the Nazi successes in overrunning Poland and much of Western Europe—with Hitler for a time making reassuring noises and gestures toward the United States. Finally, Germany would conquer much of Europe in decisive fashion and then, Hopkins said, the Nazis would “crack away at Roosevelt as they did at Churchill.” Changes in circumstances, such as Germany’s conquest of Belgium, would make some assumptions untenable. What Roosevelt preferred was an approach that would bolster national defense without alarming large segments of the American public. That is why Roosevelt, in seeking more money for the War Department, proposed a spending plan of \$250 million a month, just up from \$150 million. The President at this time, Hopkins emphasized, was not interested in sweeping plans of reorganization because FDR was afraid of the panic such measures might engender.

What TVA should do, Hopkins said, was concentrate upon accomplishing specific projects within “existing authority of law and money available.” Hopkins put forth five ideas: first, the Authority would build, and a private business would operate, an airplane factory or factories; second, TVA would construct for the War

¹⁴⁹The material here and in the following paragraph comes from Lilienthal, *Journals*, 165-68.

Department a gun factory and other ordnance plants, and; third, the Authority would establish, in such areas as mechanical personnel and ground crews, vocational and job training programs in conjunction with the National Youth Administration. Fourth, TVA should build new plants or expand existing facilities for the production of strategic war materials, especially magnesium. Finally, the agency should develop plans for increasing the supply of electrical power. The National Power Policy Committee was examining such theoretical ideas as interconnection and while this emphasis was normally acceptable, events were forcing a situation where results were essential. Hopkins urged Lilienthal to go to Roosevelt with specific proposals. This “would make the President feel good to have something specific and tangible presented to him.”

The Authority took Hopkins’s advice. In mid-June 1940, Lilienthal and other key TVA officials, notably John P. Ferris and Julius A. Krug, met with key members of the recently formed National Defense Advisory Commission. They were Edward Stettinius, Jr., board chairman of US Steel, William S. Knudsen, president of General Motors, and Gano Dunn, president of J.G. White Engineering Corporation and senior consultant to Stettinius on matters of power. At these meetings TVA proposed to build Cherokee Dam and Watts Bar Steam Plant, to install three generating units at Wilson and Pickwick dams, and to erect the transmission facilities to transmit this electricity to the Authority’s power system. Lilienthal urged quick approval; Dunn recommended that a committee study the proposal. Both Lilienthal and Stettinius

appreciated the incongruity of what the former described as a “ ‘bureaucrat’ bearing down on a couple of business executives, pressing for immediate action.”¹⁵⁰

The needs of national defense, combined with TVA’s strong track record, made a positive impact on the advisory commission. On July 9, Stettinius, Knudsen, and Dunn testified before the House Appropriation Subcommittee on Deficiencies and urged this panel to support these projects, at an estimated total cost of \$65.8 million. These industrialists and anti-New Dealers who had lambasted TVA—Dunn had worked against the Authority in the TEPCO lawsuit—now urged approval of this supplemental appropriation—\$25 million alone for fiscal 1941—with all dispatch. The nation needed electricity for the war effort; these projects would increase TVA’s capacity by 300,000 kilowatts; and this power would be available starting in early 1942. Dunn’s testimony helped sway the subcommittee, most notably on the need for Cherokee Dam, which had to be completed by early January 1942 so it could be filled by the winter and spring rains. Dunn pointed out that Cherokee was at the top of a series of dams. In this location, storage at Cherokee could be used to equalize the water flows on the Tennessee River and thus increase the available hydropower for those dams. As Dunn testified, “all the storage water that comes down adds to the effectiveness of each dam that it goes over. Here you not only get the 90,000

¹⁵⁰These meetings are described in Lilienthal, *Journals*, 174-78. The quote appears on page 177. The meetings took place on June 14 and 15. Ferris was director of the Commerce Department while Krug served as manager of the power division.

For details about the commission, see Civilian Production Administration, *Industrial Mobilization for War: History of the War Production Board and Predecessor Agencies, 1940-1945*, vol. 1 (Washington: U.S. Government Printing Office, 1947), xiii-xv. Roosevelt re-established the commission in late May 1940 during what the text calls the “defense period” of American wartime mobilization.

kilowatts out of it, but 90,000 more down the stream.”¹⁵¹ The subcommittee approved the full request and the relevant House and Senate panels soon followed suit. On July 30 Congress approved the first supplemental appropriation for defense, which included money for Cherokee Dam. President Roosevelt signed this bill the next day and TVA began construction on August 1.¹⁵²

The nation’s “defense period” that had begun in September 1939 had entered a new, quicker phase. The Civilian Production Administration, in its official history, points out that acceleration of defense requirements, both domestic and overseas, meant that by the fall of 1940 “problems of priorities, materials, manpower, and procurement had to be coordinated.”¹⁵³ Both the advisory commission and its successor agency, the Office of Production Management, faced the dilemma of “planning for industrial mobilization—the interrelation of civilian and military requirements.” Both guns and butter had to be produced, and in the requisite amounts needed.¹⁵⁴ During the rest of 1940 and throughout 1941, the United States sped up its defense preparations. At the same time, TVA quickened its transition from a peacetime to a wartime agency.

¹⁵¹76th Cong., 3rd sess., House of Representatives, Subcommittee of House Committee on Appropriations, Hearings, “Tennessee Valley Authority: Expansion of Facilities,” 1-34. The quote appears on page 12.

¹⁵²TVA, “Cherokee Project,” 1-2, 6-7.

¹⁵³Civilian Production Administration, *Industrial Mobilization for War*, xiii-xiv. The quotes are taken from page xiii.

¹⁵⁴*Ibid.*, xiv-xv. The quotes are on page xv.

Chapter Three

TVA's Contributions to the War Effort

On July 11, 1940, David E. Lilienthal called on Harry Hopkins at the White House. The TVA board member and President Roosevelt's chief defense aide had met on May 28 and since that first meeting, the wartime situation had dramatically changed. Germany had conquered France, the British Expeditionary Force had narrowly escaped annihilation at Dunkirk, and the Battle of Britain would commence in less than two weeks. Japan was also busy; its military was making inroads into French Indochina while precipitating a fateful change in the nation's government. Wartime developments were also complicating the 1940 presidential election campaign. Wendell Willkie, who had gained notoriety for his attacks on TVA throughout the 1930s, had switched in mid-January of 1940 from the Democratic Party to the Republican Party. As Germany rolled through France, Willkie's popularity rose so that by late June he had become the GOP's presidential nominee. As Lilienthal and Hopkins met, meanwhile, the Democratic Party convention was just days away. Roosevelt would break precedent by deciding to run for a third term but his insistence on being "drafted" by the convention only deepened growing divisions within the party.¹⁵⁵

At their July meeting,¹⁵⁶ Lilienthal was speaking to a man who had revised his views about TVA. Congress was reversing its previous disapproval and was

¹⁵⁵Leuchtenburg, *FDR and the New Deal*, 308-309, 312-17. The Japanese military's favored candidate, Prince Fumimaro Konoye, was named Premier in July 1940. Konoye then named General Hideki Tojo as War Minister. By late September of 1940, Japan had joined Germany and Italy to form the Axis Powers.

¹⁵⁶The material in this and the following paragraph comes from Lilienthal, *Journals*, 176-94, passim.

preparing to authorize the building of the Cherokee Dam and the Watts Bar Steam Plant. The Authority, Hopkins noted approvingly, had convinced the key members of the National Defense Advisory Committee—Edward Stettinius, Jr., William S. Knudsen, and Gano Dunn—of the proposal’s technical and economic soundness and these “dollar-a-year men,” in turn, had eagerly testified in support of these projects. More important, these businessmen believed in TVA’s sincerity in aiding the defense buildup. As Hopkins emphasized, such approval demonstrated to the nation that TVA, an agency “with social objectives to which they are opposed, can honestly and effectively work with men with conflicting social objectives but with coincident objectives as to defense.”

At the President’s direction, Hopkins had been “sifting out various plans of organization setups for industrial mobilization.” With this in mind, Hopkins elaborated on the “sheep and goats” remark that he made to Lilienthal during their May 28 conference. The government’s main objective, Hopkins said, had become “total national defense, not partial defense or defense a piece at a time, but total defense.” Full employment and adequate housing, two goals of the New Deal years, were related to but did not supersede this overall objective. As Hopkins emphasized, the industrialists called in to oversee the defense buildup generally despised the New Deal. Times had changed, however, and realities were different. Those New Dealers who paid lip service to working with industry but who used the defense situation to advance their own objectives would create divisiveness and cause trouble for the whole defense program. Those New Dealers that could accept these new realities and work for the greater good would be valuable.

As its wartime record demonstrates, TVA acted upon Hopkins's advice. In early September 1939, for example, President Roosevelt declared a limited national emergency. Later that month, TVA officials listed sixteen Authority programs that could contribute to the war effort should such need arise.¹⁵⁷ These included, in addition to navigation, flood control, food and fiber supply, data on raw materials and possible location of defense industries, and housing and cantonments. Before and after Pearl Harbor, the Authority made definite contributions in each of the areas listed. Above all else, TVA provided large amounts of needed electricity. By war's end, most Tennessee Valley homes and industries were connected to a power system that in fiscal year 1945 produced 12.4 billion kilowatt-hours—the largest amount produced by any integrated power system in the United States.¹⁵⁸

The Authority could accomplish this because of the experience it had gained since its formation in May of 1933. Building upon earlier investigations, TVA by 1936 had created a long-term plan to transform the Tennessee River and its tributaries into a developed watershed that reliably provided navigation, flood control, and electric power. By the spring of 1940, meanwhile, TVA's design, engineering and construction personnel had built six dams and were constructing four others. The Authority, therefore, had the knowledge and the expertise to handle the accelerated building schedules demanded by wartime requirements.

¹⁵⁷Memorandum to the President from the Board of Directors of the Tennessee Valley Authority, undated. Found in David E. Lilienthal Papers, Seeley G. Mudd Manuscript Library, Princeton University; Box 92a; Roosevelt, FD 1939. Hereafter, this collection is referred to as the Lilienthal Papers.

¹⁵⁸Tennessee Valley Authority, "Annual Report for the Fiscal Year ended June 30, 1946," 1.

By September 1945 the Tennessee River that Roosevelt saw in January 1933, with its waters flowing unused over Wilson Dam, had been transformed into a valuable wartime resource. Using TVA-generated power factories and farms in the Valley had manufactured and extracted, among other materiel, weapons; munitions; food; clothing; housing; fertilizer; and such essential minerals, metals, and commodities as phosphorous, ammonium nitrate, and aluminum. A July 1941 magazine article made a telling point about TVA's efforts: "The water behind the high dams is more than liquid gold. It is liquid aluminum, magnesium, rubber, high explosives, tanks. First and foremost it is bombers." This was happening because, "The river is at war, even though the nation, in the legal sense of the word, is not."¹⁵⁹ In addition, the risk of devastating floods in the Tennessee Valley had been substantially reduced while commercial vessels and pleasure craft could travel on the main river year-round from Knoxville, Tennessee, to Paducah, Kentucky.

In spurring this transformation, the Authority spent millions in the region by being a major consumer of goods and services. Based on its figures at the end of fiscal year 1946, TVA had purchased \$438 million worth of materials and equipment since its beginning in 1933. Of this total, \$314 million went for such processed and manufactured items as turbines and generators; \$104 million was used to buy such raw materials as "cement, coal, coke, aggregates, and phosphate rock"; and \$20.2 million went toward such miscellaneous services as "truck and team hire, burning debris, clearing rights of way, rental of office space and equipment, and telephone,

¹⁵⁹R[obert] L. Duffus, "A Giant Goes to War," *The New York Times Magazine* (July 27, 1941): 8. Found in Box 99; TVA: Miscellaneous, 1941; Lilienthal Papers.

telegraph, gas, electric, and water services.” TVA bought nearly three-fourths, 73 percent, of the processed goods outside the valley, while buying 96 percent of the raw materials from businesses located within the valley, and spending 87 percent of its monies inside the valley for miscellaneous services. Moreover, from 1933 to 1946, TVA spent \$72.5 million on land purchases and easements totaling more than 1.1 million acres. The cost averaged \$64.16 an acre. Only 5.4 percent of the total land purchased went to contested condemnation proceedings. This percentage did not include “property obtained from private utility companies or by transfer from other agencies.”¹⁶⁰

The genesis of the Authority’s dam-building program, according to the historian Wilmon Droze, was contained in the findings given to Congress in 1930 by the Army Corps of Engineers: *Tennessee River and Tributaries: North Carolina, Tennessee, Alabama, and Kentucky*.¹⁶¹ This report, also known as House Document 328, furnished the basis for the dams that would create a 9-foot navigable channel on the Tennessee River from Knoxville to Paducah: from Norris and Wheeler to Kentucky dams, and all of the tributary dams. The Corps, part of the War Department, played a major role in the eventual development of the Tennessee. Corps engineers designed, built, and operated the navigation locks on the main river dams. They also provided advice, as Droze points out, during the planning and building stages on such matters as “lock design, channel marking, dredging, lock size, and lock location in the dams.” Another government agency, the Bureau of

¹⁶⁰Tennessee Valley Authority, “Annual Report for the Fiscal Year ended June 30, 1946,” 11-12.

¹⁶¹Most of the material in this and the following four paragraphs is taken from Droze, *High Dams and Slack Waters*, especially chapters 2 and 3, 19-66 passim.

Reclamation, provided the designs and the blueprints used in the building of the Norris and Wheeler dams. This relationship between TVA and these agencies, Droze argues, helped generate order in procurement and construction, which facilitated both speed and quality in the dam-building process.

By August 1935, through amending TVA's original act, Congress directed TVA to fit navigation, flood control, and power production into a multipurpose program as part of the Valley's total development. These goals, as a postwar study of TVA-state relationships pointed out, reflected a "concern with the material concomitants of prosperity." Achieving these materialistic aims, rather than "remaking on a wholesale basis the institutional and economic structure of the southeastern states," was the primary focus of such key TVA officials as Harcourt Morgan and Lilienthal.¹⁶² As Lilienthal stated in a 1941 speech: "Every plan and every operation in TVA is undertaken and must be judged not separately, but in its relation to the whole task of raising the income level and expanding the economic opportunity of a people of a region, by the development and use of their natural resources."¹⁶³ In its early years, the Authority's main departments reflected this emphasis: Water Control in the River Channel, Water Control on the Land, and Water Power Utilization. Thus, the Authority had to make some necessary alterations to House Document 328, such as the best place in the vicinity to build the dams and the type of dams to build. The Corps had recommended a series of low dams and while

¹⁶²Elliott Roberts, *One River—Seven States: TVA-State Relations in the Development of the Tennessee River* (Knoxville: The Bureau of Public Administration, The University of Tennessee, 1955), 6-7.

¹⁶³Speech by David E. Lilienthal, "The Development of a Region's Resources," October 17, 1941. Box 99; Re: Speech 10/17, Little Rock, Development of Region's Resources; Lilienthal Papers. See also Tennessee Valley Authority, "Annual Report for the Fiscal Year ended June 30, 1939," 1-5.

this approach would have reduced the risk of flooding, it would have done little to facilitate navigation and hydroelectricity. The major departure TVA made was in choosing to design and build the so-called skyscraper dams, high structures that could simultaneously provide flood control, facilitate navigation, and generate hydroelectric power.

The estimated cost of providing both an adequate channel and flood-control storage, more than \$329.6 million, represented a staggering amount. But in terms of engineering factors, barge transportation, power generation and economics, the high-dam system was a better choice because it would allow the Authority to best implement and execute a multipurpose program. One example of this wisdom involved flood control on the main river. By war's end, TVA's system of dams contained 11 million acre-feet of flood control storage. This capacity paid off in reducing the size of flood crests on the Tennessee, Ohio, and Mississippi rivers, and it enabled the Authority in January 1946 to help Chattanooga, Tennessee, avoid major flooding. Had the waters been uncontrolled, the crest of the flood would have reached 45.8 feet with an estimated damage of \$10 million. As it happened, the city suffered just \$90,000 in actual damages.¹⁶⁴

At the behest of Congress, the Authority in 1936 issued its overall plan for bringing about the completed development of the Tennessee River and its tributaries. The "Report on the Unified Development of the Tennessee River System" recommended building seven dams on the main river in addition to the two already existing (Wilson Dam and Hales Bar), and five on the tributaries. The seven main

¹⁶⁴Tennessee Valley Authority, "Annual Report for the Fiscal Year ended June 30, 1946," 7.

dams were Gilbertsville (later Kentucky), Pickwick Landing, Wheeler, Guntersville, Watts Bar, and Coulter Shoals (later Fort Loudon). The five tributary structures were Norris on the Clinch River, Fowler Bend (later Hiwassee) on the Hiwassee River, Fontana on the Little Tennessee River, and one dam each on the Holston and the French Broad Rivers. By the time of this report, the Authority had learned much about how to build dams quickly and proficiently. Having an ordered plan of construction, Droze argues, led to efficient use of time, workers, and materials. Heavy machinery was used at multiple projects, while workers who gained “a high degree of efficiency and familiarity with one type of structure could be transferred to another dam of a similar nature.” In building dams, Droze noted, TVA employees “acquired land, cleared reservoirs, removed families, relocated highways and railroads, reburied the dead, dug gaping holes at foundation sites and filled them with concrete, built intricate powerhouses, and then distributed the energy created by the humming generators over an endless network of transmission lines.”

The wartime demand for electrical power, Droze argues, meant that beginning in July of 1940 the Authority “turned its attention to building for defense purposes.” The demand increased throughout the rest of 1940 and 1941, and then soared after Pearl Harbor. By July 1942, TVA was constructing nine dams and a steam plant at the same time. Building on the experience gained between 1935 and 1940, the Authority’s engineering staff and construction workers would set and break records for completing these projects so that electricity was available for wartime needs.¹⁶⁵ The first of these wartime projects was Cherokee Dam, located on the Holston River

¹⁶⁵Droze, *High Dams and Slack Waters*, 61.

near Jefferson City, Tennessee. Cherokee became operational in sixteen months, then a TVA record.¹⁶⁶

The major stages involved in building Cherokee were similar to previous dam projects: diverting the river during construction by building cofferdams; having a plant and the related equipment to handle hundreds of thousands, at times millions, of cubic yards of earth, rock excavation, rock fill, and riprap; and mixing and placing hundreds of thousands of cubic yards of concrete. The pressures and dynamics of quickened defense mobilization made this and TVA's other wartime dam projects different.¹⁶⁷ Earlier deadlines forced accelerated building schedules—problems exacerbated by fluctuations and shortages of labor and critical materials. But as in its early years, TVA's employees performed virtually all the construction at Cherokee and the Authority's other wartime construction sites. This "force-account" method was more efficient and cost-effective than the practice of hiring a building firm who then contracted out the construction work. By way of contrast to TVA's practices, there was the industrialist Henry J. Kaiser—the epitome of how corporate America made it big during the war. According to the historian John Blum, Kaiser had an abundant supply of energy, ability, and ambition. He also had a national government that "supplied his capital, furnished his market, and guaranteed his solvency on the

¹⁶⁶The material in the remainder of this paragraph and the next four paragraphs is taken from TVA, *The Cherokee Project*. The recommendations for the dams on the French Broad and Holston Rivers are contained in Tennessee Valley Authority, "Report on the Unified Development of the Tennessee River System." The report was published in 1936 and a copy is contained in the TVA Corporate Library.

¹⁶⁷TVA, *Cherokee Project*, 1-3. Regarding building deadlines, a chart on page 116 contains seventy-six categories for various operations and stages of the construction schedule. For Cherokee, TVA workers mixed and placed nearly 686,000 cubic yards of concrete.

cost-plus formula.” This spared Kaiser “the need for cost efficiency, rewarded speed at any price, and came close to guaranteeing his profits.”¹⁶⁸

To build the dam, the Authority’s construction force worked twenty-four hours a day, seven days a week. Fifteen workers died during construction. For the accident severity rate during the entire period of dam construction, August 1940 to March 1943, the Authority recorded more than 92,000 man-hours charged out of nearly 20 million man-hours worked. Labor turnover was higher than before, as the demand for workers increased because of defense needs and as men entered the armed services. From November 1940 to May 1942, TVA employed an average of 1,962 workers per month. During that time, an average of 175 workers per month left the project. The highest total on the payroll, 3,000, occurred in February and March 1941. The medical program at the Cherokee project included hospital facilities, which were available to employees who lived in the dormitories erected for construction workers. Remaining sensitive to southern racial mores, TVA used segregated housing and cafeteria facilities at Cherokee as it had on its other dam projects. A dormitory containing thirty African-American workers was set apart from the buildings that housed 240 white workmen.¹⁶⁹ Most workers commuted daily to the dam site.

The Authority had to buy practically all the major construction equipment needed for the project’s various components: “the dam, reservoir, powerhouse, switchyard, transmission lines, and other regular features.” TVA purchased nearly

¹⁶⁸John Morton Blum, *V Was For Victory: Politics and American Culture During World War II* (New York: Harcourt Brace Jovanovich, 1976), 115.

¹⁶⁹TVA, *Cherokee Project*, 115-16, 151-57. The ten principal services of the medical program ranged from physical examinations to control and treatment of venereal disease.

\$15 million worth of equipment, materials, supplies, and services. The Authority hastened this process by obtaining bids on standard equipment before Congress approved the dam. The enabling legislation for Cherokee also allowed TVA, at its discretion, to bypass regulations on advertising and awarding of bids to expedite the building of projects deemed as essential for national defense. For those projects built before 1940, the agency's normal period of regular procurement procedures usually ran from four to ten weeks. For Cherokee and later wartime projects the Authority streamlined its policies, such as eliminating formal advertising to solicit bids and keeping to a select list of leading suppliers in the involved industries.¹⁷⁰

For the land needed for the Cherokee project, the Authority paid \$4.3 million to acquire more than 45,000 acres. Of this total acreage, the Authority bought 94.2 percent from what the report terms as "willing sellers," acquired 2.3 percent through flawed titles and non-contested cases, and gained 3.5 percent through condemnation. Most of the acreage contained working farms in developed uplands and bottom lands. In fact, the area's strong dairy-farming industry meant the presence of expensive barns, which added to the purchase costs. The agency paid an average of \$95.06 per acre and of that amount, \$61.40 went for land and \$33.66 went for improvements. This price per acre was the highest for any of TVA's dams built up to that time. By comparison, the cost of improvements on the agency's previous dam projects ranged from four dollars to twenty dollars per acre.¹⁷¹ One way the Authority sought to

¹⁷⁰Ibid., 157-58.

¹⁷¹Ibid., 234.

reduce land costs was to allow people hold onto their land until late November 1941 so they could harvest their crops.

For the dam, 31,100 acres were located below the top of the spillway gates, while some 6,000 acres had to be cleared. This practice of flooding more than two-thirds of the total land purchased was consistent with the Authority's early land-acquisition policy. As the geographer John Fox has argued, TVA from its origins until the early 1940s adhered to a "buy" policy, in which it generally purchased "more land for a reservoir than will be flooded." The Authority cited three reasons for this practice: TVA would control lands around the dam and in the "immediate watershed area"; purchasing whole tracts of land lessened the costs of relocating roads and land severance; and the "elimination of the owners' privilege of holding for a more favorable market."¹⁷²

Most of the land for the dam was purchased throughout calendar year 1941, with the heaviest purchases coming in May, July, and September. The properties included homes and stores in Bean Station, Tennessee; a part of the Tate Springs Hotel property; and the Mineral Springs Hotel and the Old Colonial Brick Tavern. TVA paid more than \$256,000 for appraisal, purchase, abstract, examination of titles, and closing, among other expenses related to land purchases. The project also necessitated the rebuilding of nearly one hundred miles of highways and fourteen new highway bridges—ten of these built by TVA. Moreover, Jefferson City and Morristown each had its water supply and sewage systems remodeled, and a new

¹⁷²John Sharp Fox, "Tennessee Valley Authority Land Policies: The Case of Meigs County, Tennessee" (M.S. Thesis, University of Tennessee, 1977), 15-19. The quotes appear on pages 15 and 17.

sewage treatment plant was built for Jefferson City.¹⁷³ The Authority also relocated 875 families that lived within the reservoir boundaries, and re-interred 1,827 graves from fifty-one cemeteries.¹⁷⁴ On December 5, 1941, the Authority closed the dam to begin filling the reservoir.

TVA also aided the Allied war effort through its participation in Lend Lease, the controversial aid program that Congress approved in March 1941. Lend Lease, argues the Roosevelt Administration aide Robert Sherwood, was “one of the few ‘irrevocable acts’ to which Roosevelt committed himself before Pearl Harbor.”¹⁷⁵ The Treasury Department, with important contributions from the War Department, took the lead in drafting this legislation. The basis for the measure was an 1892 law giving the Secretary of War, at his discretion, the authority to lease Army property if it would be in “the public good.” Henry L. Stimson, Secretary of War, and George C. Marshall, Army Chief of Staff, pushed for the legislation on the basis of national security. The Roosevelt Administration, argues Sherwood, was unified behind the bill and it had the benefit of strong public support. Isolationists put up a strong fight against its passage. They had plenty of resources: money, a strong organization (the America First Committee), and the support of such notable figures as the aviator Charles Lindbergh. The passage of Lend Lease, Sherwood maintains, marked an important point in America’s mobilization. Roosevelt and his “constitutional advisers,” those in charge of the War and Navy Departments, the Army Chief of Staff

¹⁷³TVA, *Cherokee Project*, 233-35.

¹⁷⁴*Ibid.*, 9.

¹⁷⁵The Lend-Lease information is taken from Sherwood, *Roosevelt and Hopkins*, 228-29. Sherwood, an award-winning playwright, worked for Hopkins during the war years.

and the Chief of Naval Operations, were in agreement: America must either support Britain in “holding positions vital to American defense,” or assume this task.¹⁷⁶

TVA actively participated in various Lend-Lease arrangements during the war, such as providing concentrated phosphate fertilizer to Great Britain. From its inception, the Authority conducted research into and manufactured such fertilizers at the nitrate plants in Muscle Shoals, Alabama. Harcourt A. Morgan, one of TVA’s first board members, had an extensive background in agricultural education. He had long championed the use of phosphate as the key to rehabilitating the Valley’s soils, exhausted by years of growing such row crops as cotton and corn. Under H.A. Morgan’s direction, TVA worked closely with the established state and federal farming agencies: the agricultural colleges of the region’s state universities; the experiment stations; the Extension Service of the Department of Agriculture; and the Farm Bureau Federation.¹⁷⁷ In 1935, TVA began participating in the test-demonstration programs, whereby farmers in the valley volunteered to apply phosphate and lime to their lands to increase soil fertility. TVA provided the fertilizer at cost to participating farmers. The program was soon extended to farmers living outside the Valley and by July of 1940, test demonstrations were being conducted on 30,683 farms in twenty-two states.¹⁷⁸

¹⁷⁶Ibid., 155. Lindbergh’s keen memory for large amounts of technical detail eventually proved helpful to the United States. When Lindbergh visited Germany in the late 1930s, German military leaders provided the “Lone Eagle” with valuable intelligence on German aircraft. Also, Lindbergh tested some of the more than 300,000 planes the United States produced before the end of the war in 1945.

¹⁷⁷Lowitt, “The TVA” in *TVA: Fifty Years*, 40; see also, Selznick, *TVA and the Grass Roots*, 85-153.

¹⁷⁸Tennessee Valley Authority, “Annual Report for the Fiscal Year ended June 30, 1940,” 8.

By 1941 TVA chemical engineers had developed and refined such concentrated fertilizers as calcium metaphosphate and triple superphosphate. British officials concerned with Lend Lease preferred the latter product; it was effective in smaller amounts and it required less shipping space. They estimated that “one shipload of triple superphosphate is equivalent to three to six shiploads of foodstuffs.”¹⁷⁹ Britain’s requests, however, competed with U.S. domestic requirements and availability. When Britain in January 1941 requested 40,000 tons of triple superphosphate for that March, initial assessments by U.S. farm officials were that “even if all contracts were cancelled [sic],” production and drying requirements made it impossible to fulfill Britain’s request. Substituting lower-grade fertilizers for American use, moreover, would mean that farmers would pay higher costs for increased transportation, bagging, and handling, while getting a less-effective product.¹⁸⁰

The pressure of swiftly providing fertilizers for Lend Lease also affected TVA financially. Starting in March 1942, the Authority sold its fertilizers at 64 cents per unit—TVA’s estimated cost of production. Increased costs for labor, electricity, and raw materials prompted TVA to raise that figure to 78 cents per unit in October 1942 and then to 85 cents per unit in April 1943. Even with this increase, the Authority recorded a loss of \$257,324 in March 1943. With the concurrence of the Treasury

¹⁷⁹Tennessee Valley Authority, “Annual Report for the Fiscal Year ended June 30, 1942,” 27.

¹⁸⁰“Summary of conversation with representatives from Department of Agriculture, National Defense Advisory Committee, and TVA about possibility of the British acquiring Triple Super-Phosphate in the United States,” January 13, 1941, page 1; Teletype message from J.C. McAmis, TVA, to Dr. E.P. Morgan, Office of Production Management, April 16, 1941. Both documents contained in TVA, RG 142, GM/Administration files; Box 346; General Correspondence; File 091: England Through 1941.

Department, TVA in July 1943 sold its fertilizers for \$1.05 per unit, eighteen cents higher than its cost of production, until the Authority recouped its losses.¹⁸¹ Despite these and other difficulties that hindered production—notably, other wartime demands for electricity and restricted plant capacity—TVA helped supply British fertilizer needs. For the period of March 1942 through October 1943, the Authority provided more than 79,000 tons of phosphatic fertilizers for Lend Lease purposes.¹⁸² By war's end, the Authority had supplied 114,000 tons of fertilizers for Lend Lease, with most of this total going to Great Britain.¹⁸³

For the Soviet Union, TVA's primary assistance was in helping design hydroelectric plants that were provided to the Soviets. In a September 1942 letter to Harry Hopkins, Lilienthal offered the services of the Authority in building or rebuilding power plants for the Soviets. Hopkins soon backed the idea but noted that the Soviets, demonstrating their obsessive concern with secrecy, "have not received favorably any suggestion that we send into Russia other than a very few individuals."¹⁸⁴ Working under contract with the Department of Treasury's Procurement Division, the Authority's engineering staff provided drawings, cost

¹⁸¹"Estimated Loss on Lend-Lease Shipments," March 1, 1943; "Summary of Shipments for Lend-Lease Disposition," May 13, 1943; Memo from Neil Bass, Chief Conservation Engineer, to Gordon R. Clapp, General Manager, July 5, 1943. All contained in TVA, RG 142, GM/Administration files; Box 346; General Correspondence; File 091: England, 1942-1943.

¹⁸²Memo from Neil Bass, Chief Conservation Engineer, to Gordon R. Clapp, General Manager, November 20, 1943. Found in TVA, RG 142, GM/Administration files; Box 346; General Correspondence; File 091: England, 1942-1943.

¹⁸³Tennessee Valley Authority, "Annual Report for the Fiscal Year ended June 30, 1945," 2.

¹⁸⁴Letter to the Hon. Harry Hopkins, White House, from David E. Lilienthal, Chairman, Tennessee Valley Authority, September 23, 1942; Letter to David E. Lilienthal, Chairman, Tennessee Valley Authority, from Harry L. Hopkins, September 28, 1942. Contained in TVA, RG 142, GM/Administration files; Box 348; File 091; Russia through 1942. For more on Soviet secrecy, see note from W.L. Sturdevant to Miss [Marguerite] Owen, April 15, 1943. Found in TVA, RG 142, GM/Administration files; Box 348; File 091; Russia, 1943.

estimates, equipment specifications, and information on the materials required to construct these projects. TVA specialists created these materials in collaboration with Soviet engineers who were sent to Knoxville. In the first ten months of 1943, TVA engineers created the requisite engineering specifications for thirteen hydroelectric plants comprising twenty-five small generating units. In terms of total kilowatts, the size of the units mostly ranged from 1,500 to 5,000 with the largest being 14,000.¹⁸⁵ All told, TVA provided \$880,000 worth of design services for Soviet projects, funds that the Treasury reimbursed to the Authority under Lend Lease authorization.¹⁸⁶

For China, the Authority helped train Chinese technicians in such areas as dam design and construction; chemical engineering; electrical transmission and distribution; cost accounting and budgetary control; and personnel management. The Chinese participants eagerly took to the TVA's "grass-roots" doctrine and its emphasis upon decentralization, as noted in the February 1944 issue of *Universal Engineering Digest*, a Chinese-sponsored publication put out by the Universal Trading Corporation, a Chinese import and export firm based in New York City. The entire issue was devoted to various aspects of TVA regarding flood control, navigation, dam construction, electrical power, organization and management, and fertilizer manufacture.¹⁸⁷

¹⁸⁵Memorandum to Gordon R. Clapp, General Manager, from C[larence].E. Blee, Chief Engineer, July 22, 1943. Contained in TVA, RG 142, GM/Administration files; Box 348; File 091; Russia, 1943.

¹⁸⁶Activity Authorization, serial No. 701.1, submitted April 16, 1943. Found in TVA, RG 142, GM/Administration files; Box 348; File 091; Russia, 1943.

¹⁸⁷Letter to W.J. McGlothlin, Tennessee Valley Authority, from George N. Butler, vice president, International Training Administration, October 9, 1945; Letter to Gordon R. Clapp, General Manager, Tennessee Valley Authority, from George N. Butler, vice president, International Training Administration August 1, 1945. Found in TVA, RG 142, GM/Administration files; Box 345; File 091;

One of TVA's main wartime contributions was supplying electricity for the atomic bomb project at Oak Ridge, Tennessee, known during the war as the Clinton Engineer Works. Only two U.S. regions, the Tennessee Valley and the Pacific Northwest, could supply electrical power in the amounts required to produce the quantities of fissionable uranium needed for atomic weaponry. TVA's presence helped convince the Manhattan Engineer District, the Army agency that oversaw the project, to locate the plants and build a city in the Oak Ridge area. From September 1942 to the bomb's use in August 1945, 82,000 people were employed at Oak Ridge and more than \$1.1 billion was spent in this process.¹⁸⁸ Plants using the known methods of the time to extract fissionable uranium, the gaseous diffusion and the electromagnetic processes, were built on the 59,000-acre site along with the city of Oak Ridge. By early 1945, both plants were producing the U-235 that would be used in the bombs dropped on Hiroshima and Nagasaki.¹⁸⁹

Throughout the spring and summer of 1942, TVA officials assisted the Army, the War Production Board, and private contractors in seeking out the eventual site. Three Authority appraisers assisted the Corps of Engineers in preparing a gross appraisal for the land that eventually became the final site for the plants and for Oak Ridge. Five TVA departments, meanwhile, provided the information and cost figures necessary for such an appraisal. Such appraisal data included "cost estimates for improvements to the land; severance damages; easements and rights-of-way for

China, 1945. *Universal Engineering Digest*, vol. 2, number 1, February 1944. In TVA, RG 142, GM/Administration files; Box 345; File 091; China, 1944.

¹⁸⁸Johnson, Charles W. and Charles O. Jackson, *City Behind a Fence: Oak Ridge, Tennessee, 1942-1946* (Knoxville: University of Tennessee Press, 1981), 6, 160.

¹⁸⁹McBride, *TVA and the National Defense*, unpublished manuscript, Chapter Four, page 3.

railroad construction; removal or relocation of existing utilities such as power and telephone lines; cemetery removal; closing of roads; and crop values.” The Army initially appraised 80,000 acres at a cost of \$4.5 million, but later revised that figure to 56,200 acres at \$3.5 million.¹⁹⁰ From October 1942 to March 1943, essentially acting under orders from the Manhattan Engineering District, TVA purchased 52,000 acres of the eventual 59,000 acres bought for the Oak Ridge facilities. While 97 percent of land was obtained through willing sellers, the acquisition process was abrupt as the Army moved fast to get construction underway. The Manhattan project activity led to inflation in nearby areas, meaning that those dispossessed would not receive fair value for their land holdings. In some cases, the people that were evicted had lost their land from the building of the Great Smokies National Park in the 1920s, the Authority’s Norris Dam in the 1930s, or both places.¹⁹¹

TVA also helped supply the housing needs at the Clinton site. The Army, to minimize the number of onsite employees as part of maintaining tight security, extensively used prefabricated housing. TVA architects, in conjunction with the Authority’s construction projects, had designed various demountable and prefabricated houses. At the request of the Corps of Engineers, TVA provided specifications and drawings for three types of houses. As the historians Charles Johnson and Charles Jackson point out, these “flat-top designs” were put on wood posts and “built of prefabricated sections made of plywood [and] glued to wood

¹⁹⁰Ibid., Chapter Four, page 6. The departments were Commerce, Land Acquisition, Design, Water Control Planning and Regional Studies Planning.

¹⁹¹Johnson and Jackson, *City Behind a Fence*, 41-42.

frames.” They were heated by coal-fired space heaters and covered by canvas roofs. Maintained correctly, the structures were expected to last six years.¹⁹²

The tight secrecy surrounding the project extended to the Authority. Beginning in the spring of 1942, TVA officials unsuccessfully tried to discover just how much power would be needed for the Clinton project. Neither the predecessor organizations to the Manhattan Engineer District, nor the Army would provide specific details. The figures varied from 35,000 kilowatts by August 1943 to 150,000 kilowatts by January 1944. Moreover, the two military agencies involved in setting priorities for wartime construction projects could not agree on the need for increased power capacity even though the Clinton site required, as Lilienthal noted, “twice as much [power] as the city of Memphis.” In October 1942, Lilienthal proposed to Under Secretary of War Robert P. Patterson that TVA take charge of the plant. When Patterson told Lilienthal that the project far exceeded the Authority’s capacities, the TVA Board dropped the idea. When the Army built their steam plant on the site, with a capacity equal to that of Norris Dam, 238,000 kilowatts, TVA protested but soon acquiesced in the decision.¹⁹³ In time, TVA would supply electricity for all phases of the Clinton project. In the late 1940s, in describing why Oak Ridge was selected for the atomic bomb project, an official for the Atomic Energy Commission explained, “But most of all we needed electric power, an enormous amount of electric power to

¹⁹²Ibid., 25.

¹⁹³Atomic Energy Commission, “Basic Facts on Clinton Engineer Works,” undated; Union Carbide Corporation, “The Oak Ridge Gaseous Diffusion Plant,” July 17, 1967. Both documents contained in the Oak Ridge Room, Oak Ridge Public Library. See also McBride, *TVA and the National Defense*, Chapter Four, pages 9-14, and Neuse, *David E. Lilienthal*, 161.

supply the electric-magnetic process involved in producing the atomic bomb. And the Tennessee Valley Authority gave us that.”¹⁹⁴

Supplying these vast demands for electricity meant a corresponding growth in revenues. In July 1942, Lilienthal noted that the net profit for that month alone was \$1 million.¹⁹⁵ For fiscal year 1946, the Authority had net power revenues before interest of \$16.8 million. TVA in December 1945 paid \$12.6 million back into the U.S. Treasury, a figure that represented “the excess of proceeds over the needs of TVA activities financed from revenues.” Moreover, “virtually all of the expenditures and investments” made during the war—dams, power plants, chemical facilities—would not become surplus war property but “would add to the peacetime physical plant of TVA.”¹⁹⁶

In an April 1944 report to Congress, TVA officials detailed many of the ways in which the Authority contributed to the war effort. Virtually all of the Authority’s wartime scientific and technical research was an extension of or a modification of activities performed before the war. Such activities included research in fertilizer; strategic minerals and alternate processes relating to the manufacture of aluminum and aluminum-silicon alloys; food and fibre processing; forestry; transportation and industrial studies; stream pollution; and such health issues as controlling malaria.¹⁹⁷ After the war, TVA was able to mention more of its wartime contributions in its

¹⁹⁴Quoted in McBride, *TVA and the National Defense*, Chapter Four, page 16.

¹⁹⁵David E. Lilienthal, “TVA and the War: A message to employees at the end of the TVA’s first year of war,” undated, page 10. Found in Box 101; Re: Speech to TVA Employees; Lilienthal Papers.

¹⁹⁶Tennessee Valley Authority, “Annual Report for the Fiscal Year ended June 30, 1946,” 4.

¹⁹⁷Tennessee Valley Authority, “Report on Scientific and Technical Research Activities,” April 1944. Contained in TVA, RG 142, GM/Administration files; Box 202; Subcommittee on War Mobilization, 1944-1945.

annual reports, notably the production of vital chemicals and the provision of valuable mapping services. When the United States in May 1940 declared an unlimited national emergency, TVA soon rehabilitated the nitric acid plant at Muscle Shoals, Alabama, which had been built in 1918. The Authority increased its production of grained ammonium nitrate, anhydrous ammonia, and ammonium nitrate crystals used in munitions and explosives. During the war the Authority produced nearly 29,000 tons of anhydrous ammonia and 74,000 tons of ammonium nitrate, liquid and crystal, and manufactured 228,500 tons of calcium carbide for use in making synthetic rubber. In addition, TVA built a plant out of scrap materials and produced 17,000 tons of dicalcium phosphate to supply mineral feed supplements for livestock. TVA's prewar research in phosphate production, especially the development of the electric-furnace process, would also benefit the war effort. The armed forces used 98,000 tons of elemental phosphorus for "use in incendiary bombs, tracer bullets, smoke screens, and other combat uses." The Authority supplied more than sixty percent of that total; while its research in smelting of phosphate rock helped private firms supply the remaining amount. Working from photographs encompassing more than 500,000 square miles of enemy territory, TVA cartographers made maps for the armed forces. These contributions included "combat maps for invasions of Normandy, Italy, and areas in the Pacific fighting zones."¹⁹⁸

The Authority's exemplary responses to various wartime demands meant that the TVA of August 1945 was far bigger and stronger than the TVA of September 1939. At one point in 1942 the Authority had some 42,000 employees and was one of

¹⁹⁸Tennessee Valley Authority, "Annual Report for the Fiscal Year ended June 30, 1946," 3.

the largest civilian departments in the federal government, being surpassed only by the Post Office, the Treasury, and the Department of Agriculture. TVA was fast becoming, as the historian David Kennedy notes, “the forward edge of the great transforming blade of federal power that would within two generations resculpt the cotton belt into the sun belt.”¹⁹⁹ Even so, its existence was not guaranteed. As wartime realities prompted TVA to make larger contributions to the Allied war effort, powerful interests within both Congress and the federal bureaucracy would threaten the Authority’s independence.

¹⁹⁹Kennedy, *Freedom From Fear*, 149.

Chapter Four

The Douglas Dam Controversy

On December 13, 1941, the same week the United States entered World War II, an article entitled “One Senator Perils Planes” appeared in the *New York Daily News*. The story described how Senator Kenneth D. McKellar, a Democrat from Tennessee who had served in the Senate since 1917, had the political clout to defy the Tennessee Valley Authority, the armed forces, war production officials, and Franklin D. Roosevelt. These groups and the President wanted a dam built—Douglas Dam—that would produce enough hydroelectric power to manufacture, among other vital products, the aluminum needed for military aircraft. McKellar thought otherwise, arguing that the dam would uproot established agricultural interests. Using his seniority and his position as ranking member of the Senate Appropriations Committee—which gave him great influence over appropriations—he convinced Congress to deny funding for the project. The article noted that both Roosevelt and Senate Majority Leader Alben Barkley “made personal pleas to McKellar to drop his fight.” Not only did McKellar refuse, the story said, he “informed the President that he would continue his battle until the Douglas Dam project was ‘wiped off the map.’”

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Within less than two months, the inexorable realities of the war overcame private and congressional opposition to the dam. Upon hearing the news regarding Pearl Harbor, British Prime Minister Winston S. Churchill remembered thinking that

²⁰⁰Fred Pasley, “One Senator Perils Planes,” *New York Daily News*, 13 December 1941, Corporate Library, Tennessee Valley Authority, Knoxville. Hereafter, this collection is referred to as TVA Corporate Library.

“Hitler’s fate was sealed. Mussolini’s fate was sealed. As for the Japanese, they would be ground to powder.” When he went to bed that night, Churchill “slept the sleep of the saved and thankful.”²⁰¹ But in the short run, as a British military aide put it, the Allies faced a “cataract of disaster” that was more like a tidal wave.²⁰² In late fall of 1941, America and its Allies confronted the Axis Powers at the flood tide of their fortunes. Germany controlled virtually all of Europe and much of the Mediterranean and menaced North Africa and the Suez Canal—Britain’s vital passageway to India, Asia, and the South Pacific. Japan had unleashed its Pacific offensive and was pushing southward—well on its way to threatening Australia and New Zealand by the spring of 1942. If the Allies were to turn this tide—first to halt these thrusts and then regain the offensive—they would need immense amounts of weapons, ordnance, and materiel.

To make these products required vast amounts of electricity, and the Authority, through developing the Tennessee River and its tributaries, could provide much of this needed power for the factories that were expanding and being constructed in the Tennessee Valley. A June 1941 editorial in *The Nashville Tennessean*, calling for conservation of electricity, stated: “We can never forget in these times that electricity is aluminum, and aluminum is planes—and that planes for defense, in whatever quantity it takes, our nation can and will provide.”²⁰³ Therefore, in late January 1942, Roosevelt persuaded McKellar—and, thus, Congress—to

²⁰¹Winston S. Churchill, *The Second World War*, 6 vols., (Boston: Houghton Mifflin, 1948-1953). The quote is reprinted in Kennedy, *Freedom From Fear*, 523.

²⁰²Overy, *Why the Allies Won*, 32. The speaker was Gen. Hastings Ismay, secretary to the British Chiefs-of-Staff.

²⁰³“Power for Defense,” *The Nashville Tennessean*, 22 June 1941, page 1.

approve the project. Douglas Dam, located on the French Broad River near Dandridge, Tennessee, became operational in February 1943, a TVA construction record for erecting one of its dams. Built for under \$41 million, this facility provided electric power for the nation's war effort, specifically to the Aluminum Company of America (ALCOA), which produced aluminum used in the making of fighter planes and bombers, and to the Clinton Engineer Works, present-day Oak Ridge, Tennessee, part of the overall effort to build and deploy the atomic bomb.

TVA officials, both during and after the war, interpreted the controversy over Douglas Dam—its recommendation, political debate, approval, and construction—as a signal event in the agency's history. The successful fight confirmed for the Authority its independence in making engineering decisions without “trimming” to political power.²⁰⁴ TVA knew how and where to build dams, and between the summer of 1940 and the summer of 1945 the agency repeatedly demonstrated that expertise. These multiple-purpose structures, moreover, fit in with TVA's long-range plans for rehabilitating and enhancing the Tennessee River watershed. However, congressional approval of these projects also reflected mixed emotions about the Authority and its presence in the federal government. Within their various bailiwicks, segments of influential business, political, and bureaucratic opinion viewed dealing with TVA as having temporarily to treat with the Devil. In his testimony before Congress in May 1941, William L. Batt of the Office of Production Management expressed his views about this confluence of interests. “I have damned T.V.A. upside

²⁰⁴From TVA's perspective, the best enunciation of the Douglas controversy can be found in Clapp, *The TVA*, 39-45.

down and backward in my private affairs and have been here and worked for them and thanked them for being in existence insofar as their supply of power is concerned.”²⁰⁵

The hostility toward TVA of men like McKellar and Harold L. Ickes, Secretary of the Interior, would also grow as the war progressed. The attack on Pearl Harbor, however, restructured American priorities. On December 8, 1941, the day the United States declared war upon Japan, Roosevelt sent a letter to Carter Glass, chairman of the Senate Finance Committee. Roosevelt again hoped that McKellar would end his opposition so “that the authorization and appropriation can go through.” Douglas Dam, Roosevelt noted, would “flood a lot of bottom land but on a percentage basis of all the bottom lands in the Tennessee Valley it would be infinitesimal. National defense comes first.”²⁰⁶

Germany’s swift conquests in Europe in the spring of 1940 accelerated the pace of the war and the United States spent the next eighteen months frantically increasing the production of various materiel. As stated in the official history of American wartime production, industrial mobilization took place during two broad periods: from September 1939 to December 1941 and from January 1942 to August 1945. The first stage, the “defense period,” occurred while the nation was not a combatant but had to “produce weapons and materials for defense.” The second stage

²⁰⁵77th Congress, 1st session, Senate, *Hearings*, “Special Committee Investigating the National Defense Program. Testimony of William L. Batt, Deputy Director, Division of Production, Office of Production Management,” May 12, 1941: 726. This committee was headed by Sen. Harry S. Truman, Democrat from Missouri, and was known colloquially as the Truman Committee. Hereafter, these holdings are referred to as Special Committee, National Defense.

²⁰⁶Letter from President Roosevelt to the Honorable Carter Glass, December 8, 1941. Office File 42; TVA; TVA, 1941; Roosevelt Library.

came when the U.S. joined the fighting and when “the entire economy was directed toward the production of munitions for war.” The War Production Board handled this task. In the defense period, four agencies had primary responsibility for defense and war production. They were the War Resources Board (August to November 1939); the National Defense Advisory Commission (May 1940 to January 1941); the Office of Production Management (January 1941 to January 1942); and the Supply Priorities and Allocations Board (August 1941 to January 1942).²⁰⁷

During the defense period, the authority given to the various agencies dealing with wartime mobilization and production reflected political realities over defense matters, the expanding scope of the war—especially after the spring of 1940—and the need for greater organization and direction to handle the consequences of the accelerated defense program. The advisory commission’s job, according to the Civilian Production Administration, was to assist “the Armed Services in superimposing the defense program upon the existing peacetime load of industry.” Lacking the statutory authority to compel the necessary action, the commission gained its effectiveness by the prestige of its members. As shown by congressional approval of Cherokee Dam, such respected businessmen as Edward Stettinius, William S. Knudsen, and Gano Dunn frequently demonstrated their ability to persuade Congress and President Roosevelt of what was needed. One major problem, however, was accurately assessing what and how much was needed for defense. The

²⁰⁷Civilian Production Administration, *Industrial Mobilization for War*, xiii-xiv. The quotes are taken from page xiii. Germany’s conquests in the spring of 1940 led to the rapid formation of the National Defense Advisory Commission.

advisory commission, for example, soon discovered that the estimates of the Army and Navy Munitions Board were woefully inaccurate.²⁰⁸

Not until America formally entered the war did the government finally establish and refine the statistical bases and apparatuses necessary to provide decision-makers with accurate and relevant data regarding weapons, ordnance, and materiel. Until then, so-called estimates were basically guesswork. Robert Sherwood, one of Roosevelt's speechwriters during the war, described an example of this uncertainty. It involved parachutes. In the summer of 1940, the head of one of the nation's leading textile firms, Robert T. Stevens, came to Washington to assist in the defense effort. He discovered that an average of four parachutes per military aircraft was needed. Soon afterwards, Army and Navy procurement officers advised Stevens that they would need 9,000 parachutes for the 1941 fiscal year. After making some calculations, Stevens told the officers that they would need 200,000 parachutes. Astonished, the officers asked Stevens how he arrived at that figure. He responded, "The President has asked for 50,000 war planes. I just multiplied that by four."²⁰⁹

The acceleration of national defense continued in the fall of 1940 when President Roosevelt ordered federal agencies to cooperate in the setting of priorities and preferences for the defense program. One way this was done was ordering agencies to refrain from suing contractors on grounds of violating the liquidated-damages clause. The idea was to encourage contractors to accept work for the Army and the Navy, and to have these preference-rated contracts take first priority when

²⁰⁸Ibid., xiv-xv.

²⁰⁹Robert E. Sherwood, *Roosevelt and Hopkins: An Intimate History* (New York: Harper & Brothers, 1948), 161-62.

being filled.²¹⁰ But in November, soon after Roosevelt's re-election, Great Britain's perilous financial situation increased all of the problems involved with industrial mobilization. Britain was running out of dollars to buy the materiel it needed under the cash-and-carry strictures of U.S. neutrality legislation. In December 1940, for example, Britain raised its requirements for calendar years 1941 and 1942 from \$16 billion to \$20 billion.²¹¹

To remain as the linchpin of Roosevelt's short-of-war strategy, and to maintain the reviving American economy, Britain had to be amply supplied. This meant that the United States would primarily finance the Allied war effort. In early December of 1940, Secretary of the Treasury Henry Morgenthau and Secretary of the Navy Frank Knox met with other Treasury Department officials at the Washington home of Henry Stimson, the Secretary of War. As Kennedy notes, the participants realized that "Britain would exhaust its gold and dollar balances within weeks just to pay for orders already placed." Knox put the matter clearly: "We are going to pay for the war from now on, are we?" When Morgenthau replied to Knox, "Well, what we are going to do, are we going to let them place more orders or not?" the answer was obvious to all present. "Got to," Knox responded. "No question about it."²¹²

Congressional appropriations dominated the nation's military efforts between July 1940 and June 30, 1941. This period marks the time where TVA received the authorization and the funds to build virtually all of its wartime projects. For during

²¹⁰Letter from President Franklin D. Roosevelt to the Honorable Harcourt A. Morgan, Chairman of the Board, Tennessee Valley Authority, October 25, 1940. Found in TVA, RG 142; GM/Administration Files; Box 201: Stone & Webster Engineering Corp.

²¹¹Civilian Production Administration, *Industrial Mobilization for War*, 91.

²¹²Kennedy, *Freedom From Fear*, 466. The meeting occurred on December 3.

this twelve-month span, increasing aid requirements to both Great Britain and the Soviet Union, along with increased Axis conquests, “forced a raising of the sights.”²¹³ While the nation scrambled to fill defense needs, the Authority was buoyed over the “honeymoon” of TVA’s relations with the private sector and with Congress. This occurred from July 1940 to July 1941 with the approval of three supplemental appropriations to the Authority for defense purposes. In his *Journal*, Lilienthal records his joy over this trend. In hearings before the House Appropriations Committee in January 1941, there was widespread agreement over TVA’s budget request of \$94 million for fiscal year 1942. Committee members were impressed when Lilienthal testified that the Authority had earned a 3.6 percent return during the 1940 fiscal year, would increase its earnings in fiscal year 1941, and would “proceed to repay the Government for every cent of the power investment and replace it with self-financing bonds.” Moreover, the committee members respectfully treated both Lilienthal and the Authority officials who testified. At one point, the chairman asked, “Mr. Lilienthal, could you make advantageous use of an additional million or two?” In early February, Lilienthal expressed amazement and delight that the full House approved TVA’s budget request after just twenty minutes of debate. As he noted, “the amount was not cut a penny either in the subcommittee, the full committee, or on the floor.”²¹⁴ Another instance of support for TVA can be found in the procedures regarding the allocation of scarce materials. By presidential order all of these TVA

²¹³Civilian Production Administration, *Industrial Mobilization for War*, 90-91.

²¹⁴Lilienthal, *Journals*, 257-58, 275. The quotes appear on pages 258 and 275.

projects were deemed as necessary for national defense, thus giving the Authority the legal wherewithal to claim priority for needed materials.²¹⁵

This period of good feelings, however, would come to an end over the fight for Douglas Dam, a conflict triggered by the Allies' pressing need for aluminum. The Civilian Production Administration's history notes that in the case of ALCOA, the company expanded during 1939 and 1940 so that by July 1, 1940, annual production of aluminum ingot had risen from 325 million pounds in 1939 to the equivalent of 400 million pounds, with projections of 700 million pounds by mid-1942.²¹⁶ To manufacture that much aluminum required ten times that amount of electric power. Speaking in May 1942 to the National Association of Purchasing Agents, ALCOA's chief engineer, T.D. Jolly, described just how much power would be needed. "To produce 2.1 billion pounds of aluminum will require annually more electricity than was consumed in 1940 in 27 of the 48 states. In one day the industry will draw more current than a city of 60,000 homes consumes in one year."²¹⁷

While aluminum is a naturally occurring element throughout much of the Earth's surface, at that time the best aluminum started from a top-grade clay called bauxite. Bauxite was reduced to a grayish powder called aluminum oxide, also known as alumina. Alumina was then refined into the finished metal. In the processes used during the war, four pounds of bauxite—along with soda ash, lime,

²¹⁵Letter from President Franklin D. Roosevelt to the Honorable Harcourt A. Morgan, Chairman of the Board, Tennessee Valley Authority, July 1, 1941. Contained in Office File 42; TVA; TVA, 1941; Roosevelt Library.

²¹⁶*Ibid.*, 75-76.

²¹⁷Charles C. Carr, *Alcoa: An American Enterprise* (New York: Rinehart & Company, Inc., 1952) 87. Information on the aluminum-making process can be found in this work and in George David Smith, *From Monopoly to Competition: The Transformations of Alcoa, 1888-1986* (Cambridge: Cambridge University Press, 1988).

steel, and fuel oil—were needed to make two pounds of alumina. This substance, combined with such materials as pitch, coke, coal, cryolite, and fluorspar, was then transformed into one pound of refined aluminum.²¹⁸ It took nearly ten kilowatts of electricity to produce this single pound, because of the electrolytic process whereby alumina is separated into metallic aluminum and oxygen.²¹⁹ Electrolysis is the basis of the Hall method, created in the 1880s by one of ALCOA's founders, Charles B. Hall. Making aluminum this way required so much electricity that steam power increased the unit price of this metal.²²⁰ ALCOA soon became interested in establishing plants in areas that could be served by hydroelectric power because such energy was cheaper to generate. Beginning in 1909, the company built five dams on the Little Tennessee River and its tributaries to provide hydroelectric power to its refining and rolling plant near Maryville, Tennessee, located just south of Knoxville.²²¹

When the war began in September 1939, ALCOA monopolized the production of aluminum in the United States. This situation remained unchanged in mid-April 1941 when a Senate committee headed by Missouri's Harry S. Truman began investigating the national defense program. As the historian George David Smith points out, bad predictions about the adequacy of aluminum supplies in 1940

²¹⁸Carr, *Alcoa*, 24.

²¹⁹*Ibid.*, 85-86.

²²⁰Smith, *From Monopoly to Competition*, 95-96.

²²¹Carr, *Alcoa*, 95-96. These dams, which TVA would operate during the war as part of the Authority's overall system, were: Cheoah, 110,000 kilowatts; Santeelah, 45,000 kilowatts; Calderwood, 121,500 kilowatts; Glenville, 21,600 kilowatts; and Nantahala, 43,200 kilowatts. ALCOA also owned much of the land that would be needed to build Fontana Dam.

helped fuel hostility toward ALCOA in 1941.²²² When ALCOA's senior vice president, G.R. Gibbons, appeared before the committee, he and Sen. Truman engaged in sharp verbal sparring. Truman stated at one point, "here is the situation that is facing us; we need aluminum. You gentlemen, up to date, have controlled it. What procedure have you followed to meet a situation that undoubtedly is facing us now, besides the procedure to continue the control of aluminum now and in the future?" Gibbons then replied, "I wish you hadn't put that tail on that dog. We have no desire, sir—we are making no effort to control the aluminum now or in the future." Gibbons stated this, even though ALCOA had been indicted by the Justice Department for conspiring to monopolize the production of magnesium, a crucial alloy that made aluminum stronger and thus suitable for airplanes.²²³

The need for aluminum, however, had become acute. In figures provided by then-Major Gen. H.H. Arnold of the Army Air Corps, the cost of raw aluminum per plane ranged from more than \$4,600 for a Pursuit P-40 aircraft to nearly \$20,370 for a B-17 heavy bomber. This aluminum, moreover, could not be secondary aluminum—the type used in pots and pans, utensils, and other civilian products. It had to be virgin aluminum. At that time, aluminum made up between fifty-four and eighty percent of an airplane's weight.²²⁴ As the aluminum shortage hit home, TVA found

²²²Smith, *From Monopoly to Competition*, 216-17.

²²³Special Committee, National Defense, "Testimony of G.R. Gibbons, Senior Vice President, Aluminum Co. of America," May 14, 1941: 792. The information about the magnesium trust suit is contained on pages 736-38. The Reynolds Aluminum Company, based in Listerhill, Alabama, used government financing to build a plant and start producing aluminum in the fall of 1941.

²²⁴*Ibid.*, 395. The figures for the cost of raw aluminum are listed as follows. Pursuit P-40, \$4,612.08; Attack (light bomber) A-20, \$10,355.08; Medium bomber B-26, \$13,905.53; Heavy bomber B-17E, \$20,369.69. The percentage figures, which appear on page 713, came out during testimony given on May 12, 1941.

itself in the middle of this problem. Prior to and throughout the war, TVA emphasized hydropower development in providing its share of electricity for defense purposes. This direction was re-affirmed by Theodore B. Parker, TVA's chief engineer, in an August 1939 letter to Stone & Webster Engineering Corporation. When approached about expanding steam-generating capacity through the upgrading of plants, Parker noted, "Development of the Authority's hydroelectric system has now reached the point where for a variety of reasons the cost of water power generation is extremely low as compared to similar costs in most privately owned systems." TVA looked at steam power, Parker emphasized, "as standby and reserve."²²⁵ Even if TVA desired to build more steam plants, realities dictated otherwise. Expansion by private utilities, combined with the influx of business for the Navy, meant heavy demand for boilers and other products vital to steam plants.²²⁶

In the spring of 1941, however, TVA summarized its available power and estimated requirements for the period concluding at the end of 1944. The Authority's firm power capacity barely exceeded the projected needs for the Tennessee Valley.²²⁷ Even while Cherokee Dam and Watts Bar Steam Plant were being constructed, it soon became evident that more electricity would be needed. In a April 1, 1941, letter

²²⁵Letter from T.B. Parker, Chief Engineer, to Major John Coffee Hays, Executive Vice President, Stone & Webster Corporation. Contained in TVA, RG 142; GM/Administration Files; Box 201: Stone & Webster Engineering Corp.

²²⁶See Special Committee, National Defense, "Testimony of William L. Batt, Deputy Director, Division of Production, Office of Production Management," May 12, 1941: 724.

²²⁷"Summary of Available Power and Average Power Requirements, Normal and Emergency Program, 1941-1942-1943," undated. Contained in Olds Papers; Federal Power Commission: National Defense and War Power Activities: T-W, 1939-1947; Olds Papers, TVA; Roosevelt Library. Referring to its firm power capacity, the Authority estimated it would have 661,000 kilowatts in 1941, 903,000 kilowatts in 1942, and 953,000 kilowatts by 1943. Emergency contracts totaled 155,000 kilowatts each for both the 1942-1943 and 1943-1944 periods. The estimated needs for those years totaled, respectively, 653,000, 865,500, and 898,500 kilowatts.

from TVA's Julius A. Krug to Charles W. Kellogg of OPM, the Authority listed possible programs of development to meet the crunch. In one plan, no development on the French Broad River was put forth; power would come from dams built on the Holston, Little Tennessee, Hiwassee, and Ocoee rivers, along with an interchange agreement with American Gas and Electric Company's plant in Hazard, Kentucky. The Authority estimated that this plan of action would cost approximately \$160 million, with the Fontana Dam on the Little Tennessee estimated to take 36 months to complete. The needs of aluminum, aircraft production, and chemical manufacturing from such military providers as ALCOA, Wolf Creek Ordnance Plant in western Tennessee, and Vultee Aircraft Corporation in Nashville would absorb much of this increase.²²⁸

Writing in May 1941 to Harold D. Smith, director of the Bureau of the Budget, Federal Power Commission Chairman Leland Olds cited the increased power needs in the Tennessee Valley region. He urged funds for the programs that made up the second and third supplemental appropriations in the spring of 1941. Olds argued that TVA should be allowed to develop long-range plans to supply needed electricity, instead of the nation lurching from power crisis to power crisis. "The TVA has the plans and the construction organization to provide this most economically," Olds wrote. "It would be a serious error to proceed on a piecemeal basis."²²⁹ Also that

²²⁸"Notes on Possible Programs of Development and on Prospective Additional Requirements," taken from April 1, 1941 letter. Olds Papers; Federal Power Commission: National Defense and War Power Activities: T-W, 1939-1947; Olds Papers, TVA; Roosevelt Library. Kellogg, who served OPM as chief consultant for heat, light and power, was also president of the Edison Electric Institute, the main organization advocating the interests of private utilities.

²²⁹Letter from Leland Olds, Chairman, Federal Power Commission to the Honorable Harold D. Smith, Director, Bureau of the Budget, May 22, 1941. Found in Olds Papers; Federal Power

month, OPM's William S. Knudsen made another appeal to Congress for again increasing TVA's power capacity. Noting that the power created from the first supplemental appropriation was already called for, and that the 124,000 kilowatts authorized by Congress in February was already taken up, the Authority for \$42 million could provide 212,000 kilowatts of continuous capacity. The plans called for a second hydro plant on both the Ocoee and Hiwassee rivers, additional units at the existing Hiwassee Dam and on one of the Tennessee River dams, and increased capacity at the existing Ocoee plants.²³⁰

The surging demands for aluminum coincided with a drought that extended practically from the Atlantic coast to the Mississippi River and from the U.S.-Canadian border to the Gulf of Mexico. The power companies in the Northeast, which had exported electricity southward during the 1925 drought, could not do this because of expanded industrial activity and the effects of the 1941 dry spell. TVA was providing nearly 150,000 kilowatts of electricity to ALCOA on a day-to-day basis, an amount in addition to contractual obligations. The TVA Board realized, as Lilienthal noted, that ALCOA could not be cut off from power even though the Authority had a legal right to do just that. "That is sheer nonsense," Lilienthal said during a May 16 board meeting, when commissioners were told that TVA's reservoirs could not be drawn down any further. "We simply cannot cut off the Aluminum Company or stop the production of a single pound of aluminum pig, and

Commission: National Defense and War Power Activities: T-W, 1939-1947; Olds Papers, TVA; Roosevelt Library.

²³⁰"Letter of May 5, 1941, from Mr. W. S. Knudson [sic] OPM to Mr. H. D. Smith. Contained in Olds Papers; Federal Power Commission: National Defense and War Power Activities: T-W, 1939-1947; Olds Papers, TVA; Roosevelt Library.

we might as well not discuss it.” Existing realities—the need for power, no matter what—made irrelevant the past merits of the Authority’s complaints against ALCOA, which had known since late 1939 “that it must operate its production facilities 100 percent, and yet neither has 100 percent year-round power supply nor pays any attention to our insistence to them and to the Defense Commission people that provision should be made for that kind of power supply.” The TVA Board worried about public reaction if electricity rationing were imposed, as it seemed likely.²³¹ Rationing would give its foes a golden opportunity to criticize the Authority. Also, there would be the scenario of a government agency breaching its own contract, and that would hurt TVA’s reputation and the Southeast’s efforts in attracting new industry.²³²

In discussing the aluminum-production potential of the Axis Powers, Olds commented that America had “to find at least 10 billion kilowatt-hours a year” to produce enough aluminum to match the Axis Powers.²³³ A kilowatt-hour is the amount of power consumed by a 100-watt bulb in ten hours. In later testimony, Olds reaffirmed this ratio of ten kilowatt-hours per one pound of aluminum. In 1939, ALCOA used 3.25 billion kilowatt-hours in producing 327 million pounds of aluminum. Thus, in relation to the 1941 drought, Olds stated that in an adverse water year, and using the ratio of ten kilowatts per one pound of aluminum, the amount of power available for ALCOA in the Tennessee Valley was estimated at 3.876 billion

²³¹Such rationing was ordered in June 1941 and remained in force until early December. See “20-25 Per Cent Power Use Reduction, Daylight Saving Time Asked Here,” *The Nashville Tennessean*, 22 June 1941, page 1.

²³²*Ibid.*, 314-16. The quote appears on page 315.

²³³Special Committee, National Defense, “Testimony of Leland Olds, Chairman, Federal Power Commission,” May 15, 1941, 864.

kilowatt-hours. In order for ALCOA to produce 525 million pounds of aluminum, the company would need 525 billion kilowatt-hours of electricity. "In other words, something like 1.374 billion kilowatt-hours has got to be found somewhere else," Olds testified.²³⁴ He also noted that for ALCOA to operate at full plant capacity, the company would have to have a power capacity of 260,000 kilowatts. At that time, ALCOA had 90,000 kilowatts of capacity. The company purchased 30,000 kilowatts of firm capacity from TVA and filled the balance with purchases of secondary power from ALCOA's capacity or through buying secondary power from the Authority.²³⁵

This pressing need for electricity led to the fight over Douglas Dam, which began in the spring of 1941. In light of the increasing defense buildup, especially the need for aircraft, the Office of Production Management sought to add 100,000 kilowatts of power in the Tennessee Valley—to be available no later than the winter of 1943. OPM officials requested the Authority to find the quickest way to add this electricity.²³⁶ In April 1941, TVA put forth its findings in its report, "Possibilities for Hydroelectric Development: Upper Tennessee Basin." In a letter summarizing this document, TVA's Parker noted that to get power quickly, the Authority recommended developing the drainage area of the Hiwassee River and its tributary, the Ocoee River. For \$42 million, Parker said, these developments would add 215,000 kilowatts to TVA's power system by 1942. Of that total, 116,000 kilowatts would be continuous power. Parker also argued that building Douglas Dam would be

²³⁴Ibid., 869. Olds used the figure of kilowatt-hours as opposed to kilowatts because at that time, "a kilowatt may deliver up to 8,000 hours of use in a year, or it may only deliver 4,000 hours of use. The water powers of the country vary considerably."

²³⁵Ibid., 869-70.

²³⁶Clapp, *The TVA*, 39.

attractive. Douglas and Fontana dams represented the “only major remaining storage projects on tributaries which are still uncontrolled and they show an increasing economy following the completion of the main river projects.”²³⁷ The Douglas project, however, involved flooding 30,000 acres of prime farmland. This would have hurt such influential concerns as the Stokely canning company. Concurring with this assessment, OPM officials and the TVA Board rejected the site in April 1941.

To avoid this conflict inherent in the Douglas project, TVA recommended building two more dams on the Holston River: South Holston and Wautaga. If fast congressional approval were procured, Parker said, these dams could be completed in eighteen months. Started in the spring of 1941, they could have been closed by the fall of 1942—in time for the winter and spring rains to fill the reservoirs. But OPM did not reach a decision until early August. Meanwhile, revised defense goals called for the production of 1,000 bombers per month by 1943. Given these circumstances, the Douglas project could provide more power in less time. With the endorsement of the President and OPM, Lilienthal in September 1941 submitted the Douglas Dam proposal to Congress. When McKellar asked Lilienthal if the Holston dams could be substituted instead, Lilienthal replied that the Douglas project was more feasible. It could be built quicker and for less money, and produce power faster.²³⁸ Lilienthal gave this answer in a letter instead of consulting McKellar in person—a change in

²³⁷Letter to Gordon R. Clapp, General Manager, from T.B. Parker, Chief Engineer, April 16, 1941. Contained in Tennessee Valley Authority, Water Control Planning Department, “Possibilities for Hydroelectric Development: Upper Tennessee Basin, Revised Edition,” Report No. 0-2796-S, Internal Publication, TVA Corporate Library.

²³⁸Letter from David E. Lilienthal, Chairman of the Board, to Senator Kenneth McKellar, September 30, 1941. Contained in Office File 42; TVA; TVA, 1941; Roosevelt Library.

procedure that, in light of later events, Lilienthal regretted.²³⁹

The outraged senator rejected the plan.²⁴⁰ He expressed his pique and his determination to block Douglas in a letter to Lilienthal. McKellar did not accept that OPM's delay had made the two Holston projects unfeasible at that time. He accused Lilienthal of substituting the Douglas project without first notifying McKellar. "You have so much experience in legislation," McKellar stated, "that perhaps you can disregard your own evidence and place the dam where you see fit. I cannot say, but I hereby give you notice that your proposal will have the most vigorous opposition from me that I am capable of giving it."²⁴¹ That was not an idle threat; his long tenure in Congress made him one of its most powerful members.²⁴² He entered the House of Representatives in 1911 as a representative from Shelby County, and then served in the Senate from 1917 to 1953. First named in December 1923 to the Senate Committee on Appropriations, McKellar had become its ranking member by December 1941. As illness and age incapacitated the regular chairman, Carter Glass of Virginia, Tennessee's senior senator often served as acting chairman. The Democratic majority in Congress, which had existed since 1932, also increased his influence; it made him *de facto* chair of the Appropriations Committee.

Throughout the debate over the dam McKellar responded to pressure from local farm interests, especially those controlled by the Stokely and Bush companies,

²³⁹Lilienthal, *Journals*, 384-86; Neuse, *David E. Lilienthal*, 155.

²⁴⁰Neuse, *David E. Lilienthal*, 156-57.

²⁴¹Letter from Sen. Kenneth McKellar to the Honorable David E. Lilienthal, October 2, 1941. Contained in Office File 42; TVA; TVA, 1941; Roosevelt Library.

²⁴²Biographical information on McKellar can be found in two articles: Edward Felsenthal, "Kenneth McKellar: The Rich Uncle of the T.V.A.," *West Tennessee Historical Society Papers* 1966 (20): 108-22; and Dean Pope, "The Senator from Tennessee," *West Tennessee Historical Society Papers* 1968 (22): 102-22.

who tried to block the Douglas project. A December 1941 article in the Nashville *Tennessean* told of how McKellar showed a copy of his letter to Lilienthal to Fred Bush, president of Bush Brothers Cannery, while Bush was in McKellar's office.²⁴³ In a thirteen-page document contained in the McKellar archives, J.B. Stokely of the Stokely interests reiterated many of the objections to the dam project.²⁴⁴ Their main argument was that the project would inundate some 60,000 acres of prime farmland. The Bush and Stokely canning interests hired a man to prepare a report that overestimated two factors: the amount of land that would actually be under water and, consequently, the value of the farm products grown on these lands. The report stated that the land to be flooded by the dam produced an annual farm produce of just over \$1.27 million. This amount was based on the aforementioned 60,000 acres. The reservoir, however, would cover only 30,000 acres, thus meaning that the losses would be far less than what Stokely and Bush alleged. The paid agent, Edward Felkner, explained the discrepancy in the *Tennessean* article: "John Brown had 500 acres of land in the area. But only 25 acres would be submerged. The report did not show how much was produced annually on this 25 acres, rather it showed how much was produced annually on the entire 500 acres."²⁴⁵

Throughout that fall, TVA and OPM pushed for the dam and McKellar pushed back. The agency and TVA recommended that Douglas Dam be completed

²⁴³ Randolph Tucker, "Douglas Opposition Founded on Errors," The Nashville *Tennessean*, December 14, 1941, pages 1 and 14.

²⁴⁴Untitled document, TVA, Box F, Sen. Kenneth Douglas McKellar Papers, Memphis and Shelby County Public Library and Information Center. This collection is hereafter referred to as the McKellar Papers. This undated article is in response to a December 1941 *Washington Post* article by Alfred Friendly. The likely author is J.B. Stokely, based on the initials "JB" that are noted in McKellar's writing.

²⁴⁵Tucker, "Douglas Opposition Founded on Errors," 14.

first. The dam, they argued, could provide 100,000 kilowatts of power by early 1943. This extra electricity would enable the Aluminum Company of America plant near Knoxville to increase its output of aluminum, a product essential for increased aircraft production. The Holston projects would cost more—\$48 million versus \$32 million—and they could not produce power until 1944, because of the timing involved in the filling of the reservoirs.²⁴⁶ McKellar said the dam would destroy established farmland and canning businesses in the region. The senator argued that these facilities were needed to provide food for the war effort. Citing figures from the Tennessee Farm Bureau, Stokely wrote that in the area being considered for Douglas Dam, the "total annual value of all products sold and consumed by the 759 families on the 324 farms that will be affected by the proposed Douglas reservoir is \$1,271,450.04."²⁴⁷ McKellar attacked the TVA position and appealed to his colleagues to back his stance. After listing the dams that, he claimed, "I got the Congress to approve," he noted, "my thanks for these dams in this great emergency is a kick in the pants." McKellar ended his letter with this plea, "I earnestly hope my colleagues on the Appropriations Committee will not also kick me in the pants."²⁴⁸

In a December 1, 1941, memorandum to President Roosevelt, William S. Knudsen, director general of OPM, reiterated the urgency of gaining approval for Douglas Dam. Not having the estimated 100,000 kilowatt-hours that the dam was expected to generate would block the expansion of the Reynolds Aluminum

²⁴⁶William L. Batt, Washington, D.C., to Rep. Clarence Cannon, Washington, D.C., November 17, 1941, TVA, Box F, McKellar Papers.

²⁴⁷Untitled document, TVA, Box F, McKellar Papers.

²⁴⁸Owen, *Tennessee Valley Authority*, 91.

Company's plant, along with other industrial expansion planned for the Southeast.²⁴⁹

The power needs were acute, as OPM listed in an example of electricity needs for three plants devoted to stages of aircraft production. The first plant required 600 million kilowatt-hours of electricity to create 60 million pounds of aluminum ingot. The second plant needed nearly 150 million kilowatt-hours of electricity to roll this ingot into sheets. The third plant had to have about 40 million kilowatt-hours to turn this sheet aluminum into aircraft frames. "The scheduled goal at the end of 1941 was 1,400,000,000 pounds of aluminum a year. That would require 14,000,000,000 kilowatt hours of power." OPM wanted this power to be primary power, which was available around the clock. Most of the electricity had been secondary power, "that is, power that was available at times during the year when rains were plentiful and storage reservoirs [were] full." In December 1941 ALCOA's Tennessee plant was using more than 60 million kilowatt-hours per week, while TVA's total production was 120 million kilowatt-hours per week. OPM estimated that the power available in what it called the TVA-ALCOA area averaged approximately 900 million kilowatt-hours per month, but still 100 million kilowatt-hours short. Given that a battleship or aircraft carrier at that time had a power plant of approximately 150,000 kilowatts of capacity, one capable of supplying "the ordinary power needs of a city of half a million people," TVA had to plan to increase capacity by 159,000 kilowatts in 1941,

²⁴⁹Memorandum for The President from William S. Knudsen Regarding Douglas Dam, December 1, 1941. See also Memorandum for General Watson from F.D.R., December 3, 1941. These documents are contained in Office File 42; TVA; TVA, 1941; Roosevelt Library. Those members that Roosevelt wanted to meet with, in addition to Rayburn, included Vice President Henry Wallace and Sen. Tom Connally, a member of the Special Committee Investigating the National Defense Program.

437,000 kilowatts in 1942, and 149,000 kilowatts in 1943.²⁵⁰

None of these new realities, not even the impact of Pearl Harbor, swayed McKellar. When the Appropriations Committee met on December 11, McKellar convinced the panel to block funding for Douglas. He contended that the project would delay completion of the South Holston and Wautauga Dams in upper East Tennessee. Congress had already authorized these projects, he said, and thus they should be finished first. In addition, McKellar recommended the building of two dams on tributaries of the Cumberland River, the Caney Fork and the Obed rivers. The measure that the panel approved called for \$10 million each for the South Holston and Wautauga dams, and \$2 million each for the Dale Hollow and Center Hill projects on the Cumberland watershed.²⁵¹ Roosevelt asked McKellar to relent. Despite increasing press attacks, McKellar didn't budge. William L. Sturdevant, assistant to TVA General Manager Gordon Clapp, publicly condemned the senator's obstructionist tactics: "Not one of his pork-barrel substitutes can be completed in time to meet our immediate and crucial defense needs. May God have mercy on McKellar's soul when the fathers and mothers of this country begin to weigh the casualty lists."²⁵²

As the New Year began and the war news worsened the increasing criticism

²⁵⁰Office of Production Management Press Release, PM 1795, "Power for Defense," 1-7 passim.. Contained in Olds Papers; Federal Power Commission 4., National Defense and War Power Activities: T-W, 1939-1947; War Production Board: Power Branch; Roosevelt Library. The information was scheduled for release on Sunday, December 21, 1941—exactly two weeks after Pearl Harbor.

²⁵¹Pasley, "One Senator Perils Planes," TVA Corporate Library. See also J. Lacey Reynolds, "New Fight Seen to Reconsider Douglas Dam," *The Nashville Tennessean*, 14 December 1941, page 1.

²⁵²Quoted in Pasley, "One Senator Perils Planes."

of McKellar's stand, combined with the lobbying efforts of both the Administration and of OPM, began to soften his truculence. In a January 1942 letter to the editor in the Knoxville News-Sentinel, the writer criticized McKellar's support of the canning companies while holding out against the dam. "Dear Senator, you know you may be allowing those tin cans to be filled with the blood of our boys and millions more beyond the seas, while you are trying to have them filled with beans and peas." J. Fred Johnson, a noted citizen of Kingsport, Tennessee, also called on the senator to back down. "My intuitions, as I have sensed it generally here and yonder, is there is and [sic] increasing feeling . . . [that] if the Government feels the Douglas Dam should be built, your opposition to it should be withdrawn."²⁵³ In a letter to the senator, Roosevelt supported the findings of OPM and TVA. He added, "The greatly expanded war program has increased the need for power beyond any yet envisaged." Given this situation, Douglas Dam had to be built along with the other projects that McKellar pushed as alternatives. "Even with the most effective prosecution of the program," Roosevelt concluded, "there will be serious shortages of power in the Tennessee Valley region."²⁵⁴ In his reply, McKellar cited the pressing need for electricity as the reason he voted for the appropriation. But in a letter dated January 15, the senator also deferred to the President's position as commander-in-chief of the armed forces. Although McKellar grudgingly acquiesced to Roosevelt's wishes, the

²⁵³Knoxville News-Sentinel, undated. "Consider Our Boys on Battle Front—Build Douglas Dam!" Response from the Honorable Kenneth McKellar, United States Senate, to J.W. Bryant, Maryville, Tennessee, January 14, 1942. Bryant wrote the letter published in the News-Sentinel. Letter from J. Fred Johnson, Kingsport Improvement Company, Kingsport, Tennessee, to the Honorable Kenneth McKellar, United States Senate, January 14, 1942. All of these documents are contained in TVA, Box F, McKellar Papers.

²⁵⁴President Franklin D. Roosevelt, Washington, D.C., to Sen. Kenneth McKellar, Washington, D.C., January 13, 1942, TVA, Box F, McKellar Papers.

senator described himself as "abjectly ashamed" for relenting and criticized the president for not supporting his stand.²⁵⁵ On January 30, 1942, Congress authorized \$30 million for TVA to build Douglas Dam.

Douglas Dam became operational in thirteen months, mainly because the Authority used most of the techniques and strategies it had employed in building Cherokee Dam. TVA engineers used the same dam design and most of the engineering specifications, while the Authority transferred all the equipment and the workers used at Cherokee to the Douglas project. Exploratory drilling on what became the Douglas site was started on July 10, 1941, and was completed by November 22. The dam construction began on February 2, 1942, and one year and 17 days later, the gates were closed and the reservoir started filling up. At a ceremony the following month, the generators began producing power.²⁵⁶

To accomplish this feat, dam workers had to place 548,200 cubic yards of concrete, 824,500 cubic yards of earth and rock fill, and excavate 622,700 cubic yards of material, of which 54 percent was rock. TVA also had to build a large construction plant, and perform both major cofferdam work and foundation treatment. The project necessitated the removal and relocation of 525 families who had homes within the reservoir's boundaries. The Authority constructed a protective dike around Dandridge, the county seat of Jefferson County, to protect the town from reservoir

²⁵⁵Sen. Kenneth McKellar, Washington, D.C., to President Franklin D. Roosevelt, Washington, D.C., January 29, 1942; Sen. Kenneth McKellar, Washington, D.C., to President Franklin D. Roosevelt, January 15, 1942. Both letters are contained in TVA, Box F, McKellar Papers.

²⁵⁶Clapp, *The TVA*, 40-41.

backwater. In addition, TVA also adjusted various street, water, and sewer systems and re-interred 2,449 graves from thirty-two cemeteries.²⁵⁷

By 1937, the Authority had decided on what became the eventual location of the dam—a site located 32.3 miles above the mouth of the French Broad River. Because of the presence of well-developed bottomlands and agricultural businesses, the Douglas site at that time was not expected to be developed until TVA could build dams at other locations and until the requirements of the Authority's strategic development plan for the Tennessee River necessitated the building of this dam. As previously noted, wartime demands accelerated this schedule. For Douglas Dam, the Authority purchased or acquired easements on 33,160 acres. Of this total, 31,600 acres were located below the top of the spillway gates. Nearly 5,182 acres had to be cleared, and about 15,300 acres were classified as bottomlands. These were the lands that TVA described as "some of the most highly developed land" the Authority had purchased. The remaining land, approximately 17,860 acres, consisted of cleared uplands and woodlands.²⁵⁸ For this project, TVA's land acquisition policy reflected an "under-buy" policy, which meant that "the Authority bought entire tracts of land only if they were to be completely flooded or were needed for a specific related program."²⁵⁹

At its peak on June 30, 1942, TVA employed 6,219 workers on the Douglas project. The Authority relied heavily on African-Americans to meet labor needs;

²⁵⁷Tennessee Valley Authority, *The Douglas Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Douglas Project* (Washington, D.C.: United States Government Printing Office, 1949), 17, 171.

²⁵⁸*Ibid.*, 11-12, 15-17. The quote is on page 11.

²⁵⁹Fox, "Tennessee Valley Authority Land Policies," 19.

two-thirds of those employed were either in semi-skilled or skilled positions.

Douglas, moreover, featured higher labor turnover than at previous dam projects.

The Authority noted that the pressure of building the dam quickly required seven-day workweeks, “which caused cumulative fatigue and allowed no time for attending to personal business.” Other factors cited were transportation problems, men being inducted into the military, labor mobility, and competition for available labor. In addition, the manpower shortage and the high percentage of labor turnover meant that “the average physical condition of employees was probably lower than usual on TVA projects.” Just as at Cherokee Dam, construction went on around the clock. For building both the dam and powerhouse, 12,061,410 man-hours were worked. A total of 157 disabling injuries occurred, among these being four deaths and eleven injuries that led to permanent partial disability. For the *project*, there were thirteen accidents per one million man-hours worked. The pressures of wartime conditions meant that on the Douglas project, practices were allowed that would be unacceptable by present standards. For example: TVA established a sewerage system to handle the discharge generated from the worker’s dormitories and other buildings on the construction site. This waste flowed into a septic tank for treatment. From there, with the permission of the Tennessee State Health Department, the Authority discharged this raw effluent into the French Broad River.²⁶⁰ But in mid-February 1943, when the gates were closed and the reservoir started filling up, some of TVA’s practices were of small import. The dam was built and it was soon producing power.²⁶¹

²⁶⁰TVA, *Douglas Project*, 171-72, 174, 176.

²⁶¹Clapp, *The TVA*, 40-41.

Douglas Dam would produce electricity for aluminum production and for the atomic-bomb project at Oak Ridge. But while McKellar had withdrawn his opposition to the dam, he neither forgot his embarrassment at backing down nor did he forgive TVA for its stand. Starting in the spring of 1942, McKellar began waging his annual “spring offensive” that challenged the Authority’s independence. TVA spent the rest of the war thwarting these attempts. In so doing, the Authority refined and shaped a rationale that engendered much support during the war, but left the agency open to sharp criticism in the postwar era.

Chapter Five

Resisting Wartime Opposition

In late February of 1944, TVA Chairman David E. Lilienthal once again appeared before the Senate Appropriations Committee at the summons of Kenneth D. McKellar, the acting chairman. The senior senator from Tennessee again lambasted Lilienthal as a prelude to renewing his legislative assaults against the Authority. As in 1942 and 1943, McKellar advanced “ripper” legislation designed to circumscribe TVA’s control over its finances and appointments. If approved, these changes would effectively end the Authority’s independent status and leave it under the *de facto* control of Congress and, especially, politicians like McKellar. His attacks during the committee hearings were along the lines of previous criticisms, such as calling Lilienthal “the slickest rascal who ever came along.” Afterwards, Lilienthal described how he approached McKellar and said, “Senator, you are an old man and probably haven’t much time to live. You are doing a fellow human being an injustice in your position toward me. You don’t want to carry that on your soul when it comes your time to go.” Initially taken aback by these remarks, McKellar then turned to Lilienthal and harshly replied, “God damn, God damn, I have had enough of this. I am God damn tired of this, and I won’t stand for it any longer.” That June, Congress again blocked McKellar’s “ripper” bill.²⁶²

This exchange and the enmity between McKellar and Lilienthal is an example of what the historian Richard Lowitt calls the “theme of challenging TVA.” From

²⁶²Lilienthal, *Journals*, 502, 626-27, 640-41. The exchange with McKellar took place on February 24.

1933 to 1939, opposition primarily came from within the agency and from the private sector. The Arthur Morgan-Lilienthal controversy ended with Morgan's dismissal and with a congressional inquiry that cleared TVA. Private utilities, most notably the holding company of Commonwealth & Southern, sought to cripple the Authority through protracted litigation. As the historian Jordan Schwarz argues, "To survive TVA had to defeat a ruthless combination of utilities, holding companies, Wall Street investment bankers and the *New York Times*."²⁶³ From the onset of the war in September 1939 until its conclusion, opposition came mostly from sectors of the federal government. Congress established TVA as a government corporation with, among other responsibilities, broad authority over policy-making, administration and budgeting. The Department of the Interior, the General Accounting Office, and such congressmen as McKellar sought to proscribe TVA's powers through legislation and administrative regulation. They sought to turn the Authority, either *de facto* or *de jure*, into an agency or bureau of a federal department. Lowitt's observation regarding the Authority in the 1930s can be applied to the war years: "TVA was engaged in a series of struggles any one of which could have terminated or drastically changed its status as an independent agency."²⁶⁴

As Nebraska Senator George W. Norris stated in the 1930s, TVA was charged with "taking the Tennessee River as a whole and developing it systematically, as one

²⁶³Jordan A. Schwarz, *The New Dealers: Power Politics in the Age of Roosevelt* (New York: Alfred A. Knopf, 1993), 234.

²⁶⁴Lowitt, "The TVA, 1933-1945" in Hargrove and Conkin, *TVA: Fifty Years*, 36, 40. Elements of Congress could make things difficult for the Authority, as evidenced by the budget battles during the spring of 1939 that threatened to block the sale to TVA of the Tennessee Electric Power Company properties. The Ickes, GAO, and McKellar controversies, however, threatened to hamstring TVA in various ways.

great enterprise, to bring about the maximum control of navigation, of flood control, and of the development of electricity.”²⁶⁵ To survive with this mandate intact, the Authority had to show that its work in these areas was better than similar work done by departments based out of Washington, D.C. TVA officials argued that by the regional process, the Authority could do a more thorough and effective job. Otherwise, the Authority’s programs would be coordinated and absorbed by and within other federal departments. TVA Director Harcourt A Morgan put it this way: “if the Authority is to be required to report to the head of one agency having comparable interests, it may with equal justice be directed to review its decisions with several.” TVA would then lose its independent status. Thus, as the social scientist Erwin Hargrove correctly points out, “decentralization and multiple purposes went together.”²⁶⁶

To maintain the Authority’s independence and statutory powers, TVA officials had regularly to find a viable compromise between simultaneously desired political and economic opposites in the nation’s life: what the historian Kenneth Davis describes as the battle “between freedom and organization, [and] between individual liberty and community authority.”²⁶⁷ TVA had to demonstrate the efficacy of the regional approach, whereby the Authority would administer its programs from the Tennessee Valley rather than from Washington. To accomplish this, the TVA Board crafted and executed a strategy that created and reinforced public support for the Authority’s mission. This defense had two components. The first emphasized

²⁶⁵Lowitt, “The TVA, 1933-1945,” in Hargrove and Conkin, *TVA: Fifty Years*, 35.

²⁶⁶Hargrove, *Prisoners of Myth*, 50-51.

²⁶⁷Davis, *FDR: Into the Storm*, 164.

merit; the Authority efficiently and effectively provided services and resources essential to the war effort. The second comprised both a rationale; TVA officials, most notably Lilienthal, articulated an administrative philosophy that emphasized broad local participation in ways consistent with both TVA's legal charter and democratic values. Lilienthal and fellow director Harcourt A. Morgan called this process "democracy at the grass roots."

Without question, as Richard Lowitt argues, TVA represented "the most massive intrusion of federal authority into the South since Reconstruction." The Authority, not the Valley's residents, initiated virtually all of the projects that reshaped much of the Tennessee Valley.²⁶⁸ The conflict between the rights of the Valley states and the powers exercised by the federal government had not, despite Lilienthal's ardent belief, "faded into irrelevance."²⁶⁹ Wartime and postwar critics of TVA thus targeted the idea of "grass-roots democracy"—an admittedly vague term—arguing that it was a rationalization designed to cloak the Authority's grab for regional dominance and for bureaucratic survival. This viewpoint was pointedly expressed by the literary critic Donald Davidson. "Outside of a handful of responsible parties, the most ardent enthusiast for TVA within the valley had as little to do with its origin, maintenance, and continuance as had TVA's most bitter opponent."²⁷⁰

These criticisms, however, mask a complex reality. In his study of conservation during the Progressive Era, the historian Samuel Hays argues that the

²⁶⁸Lowitt, "The TVA, 1933-1945" in Hargrove and Conkin, *TVA: Fifty Years*, 57, 61. The quote appears on page 61.

²⁶⁹Lilienthal, *TVA—Democracy*, 125.

²⁷⁰Davidson, *The Tennessee*, vol. II, 332-33.

“concept of multiple-purpose river development” would eventually lead to the “concept of planned and efficient progress, which lay at the heart of the conservation idea.” Arthur E. Morgan, former TVA chairman, reflected the view of those conservationists who preached and subscribed to what Hays calls the “gospel of efficiency.” Decision making over matters of resource use should be done by “experts, using technical and scientific methods.” These experts were the only ones that “should decide all matters of development and utilization of resources, all problems of allocation of funds.” As Hays puts it: “The crux of the gospel of efficiency lay in a rational and scientific method of making basic technological decisions through a single, central authority.” Yet, this approach required “centralized and coordinated decisions,” and this process “conflicted with American political institutions which drew their vitality from filling local needs.” The problem, Hays noted, was this: “How can large-scale economic development be effective and at the same time fulfill the desire for significant grass-roots participation?”²⁷¹

Lilienthal grasped the nettle of the technology-democracy dilemma. People can enjoy the fruits of industrialization—economic and agricultural rehabilitation and prosperity—without despoiling nature and without overthrowing democratic principles. As Lilienthal wrote in *TVA—Democracy on the March*, “We have a choice: to use science either for evil or for good. I believe men can make themselves free.”²⁷² The way to maintain local participation, and thus keep democracy vital, was

²⁷¹Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge: Harvard University Press, 1959), 5, 271, 276.

²⁷²Lilienthal, *TVA—Democracy*, xi-xii, 1-2. Lilienthal published a revised version of his book in 1953, the occasion of TVA’s twentieth anniversary. Throughout this dissertation, all quotes and page references refer to the 1944 edition.

not to reduce the scope of the federal government but to exercise its central authority in a decentralized manner—to administer policies and regulations in the field, rather than from Washington, D.C. This approach puts both authority and its administration on the same level of priority and importance instead of, respectively, a central idea/afterthought relationship. Throughout the war years, both in speeches and in his book, Lilienthal proffered this approach: when appropriate, there should be the “*decentralization of the administration* of some of those federal powers.”²⁷³

Otherwise, centralization in the national government could become as problematic as it had become in business and industry. As Lilienthal argued in November 1940, “The dangers implicit in vast size, the evils that threaten when power is exercised far from those whom it affects—these are hazards common to the world today. We must devise defenses against these hazards if we are to retain democracy in more than mere form.”²⁷⁴

As the economist Gilbert Banner notes, TVA early on worked with the idea that to survive, it needed popular support from the region’s residents. Therefore, the Authority set up administrative policies that were designed to cooperate with local agencies. Moreover, TVA believed it had to be sensitive to the public mood. Change could only happen when residents wanted it to happen, and at the pace which residents thought best. TVA had to have the region’s support; it could not impose

²⁷³Lilienthal laid out his many of his views in David E. Lilienthal, “The TVA and Decentralization,” *Survey Graphic* XXIX (June 1940): 335-37, 363-67, before bringing these ideas together in *TVA—Democracy on the March*. Lilienthal added the italics.

²⁷⁴David E. Lilienthal, “The TVA: A Step Toward Decentralization,” speech given on November 29, 1940 at the University of California at Berkeley, 2. Taken from personal copy of the author of this dissertation.

itself on the people that the agency was created to help out.²⁷⁵ The Authority's concentration upon, and successful execution of, specific projects related to its physical program helped embellish the Authority's reputation in the minds of the valley's residents. Once TVA had earned people's trust Senator McKellar's attacks, Lilienthal concluded, provided an "almost perfect vehicle for preaching the gospel of no politics in an important government enterprise." When in April 1942, the mayor of Tupelo, Mississippi, urged residents to tell Congress to "keep TVA out of politics," Lilienthal recognized the incongruity of "a politician urging the people to bring pressure on other politicians to lay off a public, that is, a politically created institution." But when talking about staying out of politics, Lilienthal and TVA's backers meant the type dealing with patronage, what he called "political considerations of a narrow and predatory sort. Proposition No. 1: A public agency pleads that it should not be in politics. That in itself is 'man bites dog.'"²⁷⁶

Just days after the war erupted in Europe, Secretary of the Interior Harold L. Ickes made the first of his two bids to bring TVA under the domain of the Department of the Interior. In April 1939, Congress passed the Reorganization Act in response to a report issued in 1937 by President Roosevelt's Committee of Reorganization. Concerned that too many New Deal agencies were reporting directly to the president, the committee recommended that most of these agencies be placed under existing federal departments. The law, as Hargrove notes, "authorized the president to issue

²⁷⁵Banner, "Toward More Realistic Assumptions," in Moore, *Economic Impact*, 126.

²⁷⁶Lilienthal, *Journals*, 482-83.

executive orders placing independent agencies under the authority of departments.”²⁷⁷

In July and September 1941, Ickes had such orders drafted for Roosevelt’s signature.

In both cases the Secretary argued that under the guise of coordination of power for war purposes, all federal power agencies should be brought under the oversight of the Interior Department.

In reality, both moves were part of Ickes’s longtime goal to have the Interior Secretary oversee all conservation matters relating to federal public lands. The conservationist T.H. Watkins, in his biography of Ickes, argues that his “dream would be called the Department of Conservation and under an administrative mandate held and exercised by the Secretary of the Interior, it would be devoted exclusively to the preservation and wise management of all the federal public lands of the United States. All of them.”²⁷⁸ To Ickes, TVA was a threat because much of its work was similar to other activities performed by the Interior Department. Moreover, Ickes and Lilienthal were strong-willed men who also despised each other. Lilienthal, however, correctly observed that Ickes had an insatiable desire to increase his authority.²⁷⁹ As the historian William Leuchtenburg describes Ickes, he “ran his department like a Chinese warlord who coveted the contiguous lands of other border ruffians.”²⁸⁰

With some help from its friends, TVA thwarted both takeover attempts. In a September 1939 letter to President Roosevelt, H.A. Morgan provided a detailed list of TVA accomplishments: “the building of dams with its own labor force; the purchase

²⁷⁷Hargrove, *Prisoners of Myth*, 50.

²⁷⁸T.H. Watkins, *Righteous Pilgrim: The Life and Times of Harold L. Ickes, 1874-1952* (New York: Henry Holt and Company, 1990), 452.

²⁷⁹A sample of Lilienthal’s disgust with Ickes and his methods can be found in the former’s *Journals*, especially 136-38 and 361.

²⁸⁰Leuchtenburg, *Franklin D. Roosevelt and the New Deal*, 278.

of land and the relocation of populations; the promotion of land conservation and crop experimentation; the pioneering in the construction of farm machinery; navigation and flood control; and the generation of electric power.” Meanwhile, Sen. George Norris staunchly defended the Authority’s independence in strong letters to Roosevelt and in meetings with Ickes’s subordinates,²⁸¹ while Director of the Budget Harold Smith also objected to Ickes’s proposals. The fact that Ickes was widely disliked also helped TVA’s cause. In July of 1941, William L. Batt of the Office of Production Management visited Lilienthal at TVA’s Muscle Shoals facility. Batt denigrated the Secretary’s move to “grab off power” and he made it clear that Ickes’s bid to increase his supervisory authority “would be done over the OPM’s dead body.”²⁸²

What the 1939 takeover attempt did, Hargrove argues, was stimulate the TVA Board into articulating an approach that could be used to fend off “encroachment from Washington.” The grass-roots argument became both that tactic and that rationale. As Hargrove notes, “The grass roots gospel was drawn from TVA practices as interpreted by H.A. Morgan’s theory of action, which Lilienthal learned personally from the older man.” Lilienthal believed “that TVA’s many cooperative endeavors were genuine grass roots actions,” such as the new farming strategies, bringing electric power to many living in rural areas, and the Authority helping local electric companies and cooperatives get organized so they could deliver electricity. Both Harcourt Morgan and Lilienthal knew that such a process was fragile, as the

²⁸¹Hargrove, *Prisoners of Myth*, 51.

²⁸²Lilienthal, *Journals*, 359-67.

South had a long tradition of being controlled by economic and political elites. Thus, TVA had to show results early on to gain public support, Hargrove argues, “so local leaders would support it no matter what happened in Washington.” This explains why H.A. Morgan relied on successful farmers for the test demonstration program, and why Lilienthal believed “that the boards of municipal electric companies should consist of prominent local businessmen.” The Authority also enhanced its reputation with active public relations by its staff: writing articles, giving speeches, using journalists to write annual reports, cultivating good relations with visiting journalists and opinion makers, and putting on such TVA exhibits as the 1942 show at the Museum of Modern Art in New York City.²⁸³

Lilienthal often took the lead in these efforts as part of his growing leadership of the Authority, a process that sped up in the summer of 1939. Harcourt Morgan, worn down by the Arthur Morgan controversy and the subsequent congressional inquiry, was in his early seventies and had become less able to carry on in the fights that TVA faced. While Lilienthal personally liked James Pope, who in 1939 was named to replace Arthur Morgan, he denigrated Pope’s administrative abilities and personal talents. Lilienthal in September of 1941 was named Chairman of the Board, and he would occupy this position throughout the war.²⁸⁴ With Lilienthal often leading the charge, TVA officials looked at every attempt to infringe upon TVA’s autonomy as a threat to be stopped. If a proposal would set a precedent—no camel’s

²⁸³Hargrove, *Prisoners of Myth*, 52-53.

²⁸⁴Lilienthal, *Journals*, 116. Letter from H.A. Morgan, Chairman of the Board, to The President, September 10, 1941; Letter from Franklin D. Roosevelt to the Honorable Harcourt A. Morgan, Tennessee Valley Authority, September 15, 1941. Both of these letters are found in Box 97; Morgan, Harcourt A., 1941; Lilienthal Papers. Harcourt Morgan remained on the TVA Board until 1948, when his term expired. He died in 1950.

nose in the tent—vigilance was practiced and opposition was applied to maintain the agency's status as a government corporation.²⁸⁵

In their wartime disputes, both McKellar and Lilienthal were determined to get their way. Operating on a philosophy of getting as much as he could for his state and region, what some critics called “McKellarism,”²⁸⁶ the senator pushed for funding for TVA throughout the 1930s. With some justification, McKellar often claimed a vital role in helping procure funding for the building of seven dams—projects that Congress authorized between 1935 and 1940—that went beyond the initial construction of the Norris and Wheeler dams in the mid-1930s.²⁸⁷ In February 1939, McKellar received credit for restoring funding for the Gilbertsville, Kentucky, flood control and navigation project, and for the Watts Bar Dam near Chattanooga. His personal touch with other senators was considered decisive in this fight.²⁸⁸ That month, he also convinced the Senate to restore more than \$17 million in monies for TVA that had been cut out in the House.²⁸⁹

²⁸⁵Lilienthal, *Journals*, 472-74. Another example of TVA's vigilance occurred in April 1942 regarding proposed federal legislation that would have given citizens a right to sue the government for tort liability. Lilienthal convinced the assistant Attorney General in charge of claims to exempt TVA from the bill's proviso that the Attorney General would be the one to settle claims arising from tort liabilities. This would have taken this power away from the Authority. Even if the Attorney General delegated that power to TVA regarding Authority cases, Lilienthal noted, “the effect would be the beginning of the cracking up of the system of regional decentralization and grass-root execution of TVA powers.”

²⁸⁶Felsenthal, “Rich Uncle of the T.V.A.,” 116.

²⁸⁷Sen. Kenneth D. McKellar, Washington, D.C., to L.H. Allred, Erwin, Tenn., May 1, 1942, TVA, Box A, Sen. Kenneth Douglas McKellar Papers, Memphis and Shelby County Public Library and Information Center. This collection is hereafter referred to as the McKellar Papers. In this letter, McKellar repeated his claim that he “secured the building, through the Appropriations Committee of the Senate, of the Pickwick, Guntersville, Hiawassee, Chickamauga, Watts Barr [sic], Fort Loudon, and Gilbertsville Dams; seven in all.”

²⁸⁸J. Lacey Reynolds, “M'Kellar Heralded as Savior of TVA,” *Chattanooga Free Press*, 20 February 1939, TVA Corporate Library.

²⁸⁹Jesse S. Cottrell, “Praise Showers McKellar for TVA Victory,” *Chattanooga News*, 22 February 1939, TVA Corporate Library.

By 1940, McKellar predicted that all towns in Tennessee would have TVA power.²⁹⁰ With the Memphis political machine of Edward H. Crump further solidifying McKellar's strong congressional base, the senator certainly had the political clout to fulfill his prediction. That same year, Tennessee voters in 1940 re-elected McKellar to a fifth term by more than 173,000 votes.²⁹¹ His big margin, in large part, came as a result of the political realities in the Jim Crow South. As the writer John Egerton emphasizes, "the pillars" that supported the influential congressional Southern bloc were firmly in place: "the poll tax, the white primary, one-party politics, race-class ideology, [and] the seniority system in Congress." As one of the senior members of this club, McKellar was one of "the wise men" who knew how "to control the size of the electorate by excluding blacks, discouraging low-income whites, and maintaining the subordinate status of women—and then to rule with enough force and fear to stifle dissent."²⁹² McKellar also used patronage to reinforce his power; he operated on the theory of rewarding his friends and punishing his enemies. He demonstrated the former tendency through his chairmanship of the Post Office and Post Roads Committee, which controlled the awarding of postmaster positions. He exhibited the latter streak in the spring of 1939 when he forced Harold Ickes to transfer the superintendent of Great Smoky Mountains National Park to another site. The official, J. Ross Eakin, had voted Republican in the 1938 elections, a fact that McKellar found out by illegal means. Democratic election officers in

²⁹⁰Ernest B. Vaccaro, "Increase in McKellar's Influence Amazes Observers in Washington," *Chattanooga Times*, 1 January 1939, TVA Corporate Library.

²⁹¹"Committee Chairmen and Ranking Republicans," *Congressional Quarterly*, January, February, March, 1945, vol. 1, no. 1, 31.

²⁹²Egerton, *Speak Now Against the Day*, 398-400.

Tennessee smeared Eakin's ballot with ink, then told McKellar how the park superintendent had voted.²⁹³

By early 1942, the Douglas Dam controversy and its outcome had turned McKellar into an adversary of both Lilienthal and TVA. Although the Authority won this legislative battle, it nearly lost the congressional war that McKellar waged against it. McKellar knew he had the support of a coalition of Republicans and conservative Democrats that effectively controlled the Senate. Even a congressman as powerful as Senator Carter Glass of Virginia, chairman of the Senate Committee for Appropriations and with greater seniority than McKellar, would not defy the wishes of his colleague from Tennessee.²⁹⁴ So, McKellar kept after TVA and Lilienthal. In spite of his previous work on behalf of the agency, and over the objections of the press, leading government officials, and the President of the United States, the senior senator from Tennessee nearly brought the agency under his control. From 1942 through 1945, McKellar introduced legislation each spring to change the Authority's charter and thus bring TVA effectively under his control through patronage. This independence included authority over hiring and discretion in the spending of funds. McKellar, in his role as acting chairman of the Senate Committee for Appropriations, would have controlled TVA's budget and its appointments had Congress passed his legislation.

²⁹³For details on this incident, see John T. Moutoux, "Fight on Eakin Sure to be Big Issue in McKellar Campaign," *Knoxville News-Sentinel*, 16 April 1939, TVA Corporate Library; and "He Can't Be Fair," *Birmingham Post*, 2 June 1939, TVA Corporate Library.

²⁹⁴Letter from Carter Glass to President Roosevelt, December 11, 1941; Box 10; TVA; TVA 1941; Roosevelt Library.

The senator offered amendments to the Independent Offices Appropriation Bill each spring. The annual bill provided funds for such federal agencies as TVA that were not included in departments headed by Cabinet officers. The Committee for Appropriations would approve the bill as amended and sent it on to the full Senate. The Senate backed the legislation in 1942, 1943, and 1944, but rejected McKellar's bid in 1945. The House rejected the amendments the first two years, but approved its version of the legislation in the spring of 1944. However, the anti-TVA amendments were struck out that June in a conference committee set up to reconcile the differing versions of the legislation. The measures included: requiring TVA to return its surpluses to the Treasury each year; seek annual appropriations from Congress; require Senate confirmation of TVA employees making more than \$4,500 annually; and move the agency's headquarters from Knoxville to Washington, D.C.²⁹⁵

The first two amendments struck at TVA's ability to manage its own affairs and hire employees without outside interference. The Authority kept the receipts of its power sales in a revolving fund to use in maintaining and extending its power system. McKellar argued that TVA should turn its revenues into the Treasury and come to Congress for annual appropriations. The senator stated this position, and his enmity toward Lilienthal, in a May 1, 1942 letter to President Roosevelt. Claiming that he supported TVA, McKellar argued that the Authority "must be run according to law and not according to the whim of its Chairman, David E. Lilienthal. You will remember that I urged you sometime ago to separate him from the service. I do not

²⁹⁵Charles L. Fontenay, *Estes Kefauver: A Biography* (Knoxville: The University of Tennessee Press, 1980), 108.

believe that he is the kind of man that ought to be allowed to spend the Government's money without a budget estimate and without having to account to any one for it."²⁹⁶

Various press reports, however, accurately characterized McKellar's legislative moves as a grab for patronage and his fight with Lilienthal as a feud, one stoked by the senator's bitterness over Senator Norris getting credit for founding TVA. The historian Steven Neuse writes that in February 1943, McKellar even accused Roosevelt of taking "away from me the credit that was due me for more than a quarter century's work on these dams and for some unaccountable reason [throwing] the credit in the lap of Senator Norris who could not have gotten a dollar for those dams . . . to save his immortal soul."²⁹⁷ *Time* magazine in May 1942 characterized McKellar's action as follows: "McKellar, premier Senate spoilsman, had once envisioned TVA as a wonderful new Tennessee source of political jobs—something juicier than marshalcies and postmasterships. Lilienthal refused to cut the melon."²⁹⁸

The Tennessee congressional delegation, buoyed by strong public support for the agency, blocked his legislation each time. But it was a tough fight. In 1942 and 1944, Representative Estes Kefauver argued against McKellar's legislation in the House, saying that hamstringing TVA would cripple the country's capacity to wage war. Kefauver, a Democrat from Chattanooga, became the leader of the House coalition that would fight McKellar each year that he waged his "spring offensive." By 1944, most of the Tennessee House delegation and Senator Tom Stewart objected

²⁹⁶Sen. Kenneth McKellar, Washington, D.C., to President Franklin D. Roosevelt, Washington, D.C., 1 May 1942, TVA, Box R, McKellar Papers.

²⁹⁷Neuse, *David E. Lilienthal*, 156.

²⁹⁸"Feud," *Time*, May 23, 1942, TVA Corporate Library.

to some or all of McKellar's proposals. The opposition to the senior senator even included Ed Crump, McKellar's main political patron. In waging his fight against McKellar, Kefauver received the support of unions, agricultural organizations, and constituents urging McKellar to leave TVA alone. The International Brotherhood of Electrical Workers opposed McKellar's proposal to require Senate confirmation of employees earning more than \$4,500 annually, arguing that it would discourage engineers from seeking employment with the agency. Moreover, the union wrote that the Authority had done its work well: "The people in this Valley feel they have had a part in the accomplishments of the TVA and that it reflects their own efforts and labor, and they believe that a decentralized federal agency, free from political encumbrance, can be made to work, for they have proven it."²⁹⁹ Meanwhile, the Tennessee Farm Bureau Federation wrote in March 1944 that TVA demonstrations allowed for the proper testing of fertilizers needed for the growing of food. The bureau feared that McKellar's amendments, if adopted, would jeopardize that program by altering the structure of the Authority.³⁰⁰

In the process, McKellar vented much of his anger toward TVA against its chairman. In a May 1942 letter, McKellar vowed to bring the agency under greater congressional oversight and thus rein in Lilienthal: "Sooner or later the Congress will cause the TVA to come before the Congress for its appropriations and pay its receipts into the Treasury of the United States. I am quite sure that it is not bigger than the

²⁹⁹George M. Burrell, International Brotherhood of Electrical Workers, Chattanooga, Tenn., to Rep. Estes Kefauver, Washington, D.C., 18 April 1944, Box 112, Folder 1, Special Collections, University of Tennessee, Knoxville, Estes Kefauver Collection. Hereafter, this collection is cited as the Kefauver Papers.

³⁰⁰J.F. Porter, Tennessee Farm Bureau Federation, Columbia, Tenn., to Rep. Estes Kefauver, Washington, D.C., 21 March 1944, Box 112, Folder 3, Kefauver Papers.

Government and I hope that it may never be so. While I am for the TVA one hundred percent, Lilienthal will ruin it if he remains as its head.”³⁰¹ From his experience with legislative battles, Lilienthal realized that instead of trying to pacify “the demanding members of Congress,” the vital point was to ensure that the citizens understood the issues affecting the Authority, and supporting it against attacks. In other words, “if the people affected can understand what you are doing and approve it, the generals—the Congressmen—do not present a serious problem.” One example of the depth of support for TVA in the McKellar fight occurred when Senate Majority Leader Alben Barkley of Kentucky wanted to be briefed before the hearings began on the Senate floor, so that he would be prepared. Barkley also backed TVA to the point that he was willing to do battle with the powerful McKellar. While he was motivated by the response of his constituents, Barkley also knew that, as Lilienthal put it, “this is an Administration measure of the first importance.”³⁰²

For his part, Lilienthal was pleased with himself about being able to withstand McKellar’s opprobrium during hearings over the senator’s restrictive amendments. Doing this, however, required a great degree of self-control and there were times when Lilienthal revealed his bitterness. “But when I am an old geezer writing his memoirs, I don’t want to let myself say I didn’t mind being called a crook, in a dozen ways and by a score of nasty implications. I do mind, like the very devil. It hurts.”³⁰³ What kept Lilienthal going was his fervent belief in what the Authority had accomplished and the future benefits that it could bring to the Tennessee Valley. This

³⁰¹Sen. Kenneth D. McKellar, Washington, D.C., to Dr. J.C. Eldridge, Chattanooga, Tenn., May 16, 1942, TVA, Box E, McKellar Papers.

³⁰²Lilienthal, *Journals*, 456-57, 481-86.

³⁰³*Ibid.*, 634.

included completing the manuscript for *TVA—Democracy on the March*. During the war, the book fulfilled three purposes. First, it increased needed public and political support for the Authority in its fights against McKellar. Second, it provided a compilation of some of TVA's impressive accomplishments during the Authority's first ten years, 1933 to 1943. Finally, the book was a statement of how TVA's experience could be adapted to the postwar world. In time *TVA—Democracy* would represent, argues the historian Steven Neuse, "a superb example of American political rhetoric," ranking with the best efforts of such men as "Patrick Henry, Abraham Lincoln, Woodrow Wilson, and Franklin Roosevelt."³⁰⁴

Lilienthal solidified his decision to write *TVA—Democracy* during the late summer and fall of 1942. To make the job easier, both he and his editor, Ordway Tead of Harper & Brothers, agreed that Lilienthal would primarily use material on public organization that he had presented in previous speeches and articles.³⁰⁵ McKellar's renewed legislative threats against the Authority and other responsibilities meant that in the winter and spring of 1943, Lilienthal could only work intermittently on the project.³⁰⁶ This frustrated him, because he wanted to contribute to the increasing debate over how to rebuild the world after the war was over. Lilienthal pushed to complete the book, leaning heavily on friends and present and past

³⁰⁴Neuse, *David E. Lilienthal*, 135.

³⁰⁵Lilienthal, *Journals*, 532-33. Letter from Ordway Tead, Editor, Economic Books, to David Lilienthal, Chairman, Tennessee Valley Authority, November 5, 1942; Letter from David E. Lilienthal, Chairman, to Ordway Tead, Harper & Brothers, November 12, 1942; Letter from Gordon R. Clapp, General Manager, to Ordway Tead, Harper & Brothers, November 14, 1942. All found in Box 104; Harper's 1943; Lilienthal Papers. Letter from Dave to Fred [Arvin], December 29, 1942. Box 100; Arvin, Newton (Fred) 1942; Lilienthal Papers. During his tenure at TVA, Clapp became one of Lilienthal's closest friends and business associates. Clapp served as general manager from October 1939 until September 1946, when he was named as chairman to replace Lilienthal. After leaving TVA in May 1954 he worked with Lilienthal in various business ventures. Clapp died in April 1963.

³⁰⁶Lilienthal, *Journals*, 581-83, 584-88, 591, 607-10.

associates for advice and getting the manuscript in shape.³⁰⁷ On October 8 he gladly sent the 371-page manuscript to Harper's.³⁰⁸ Lilienthal's relief soon turned into elation when Tead lauded his efforts. Calling the final draft "perfectly splendid," Tead also noted that Lilienthal's work "is noble and eloquent—and, believe me, I am hardboiled about manuscripts!" Lilienthal was delighted. "You have no idea how pleased I was to learn that the final draft of the book strongly appeals to you."³⁰⁹ First appearing on bookstands in late March of 1944,³¹⁰ *TVA—Democracy* received warm praise from such readers as the historian Charles A. Beard, the authors Thomas Mann and Archibald MacLeish, and the psychologist Erich Fromm. All agreed that Lilienthal made a crucial point about democracy in wartime: specifically, human beings could receive the benefits of technology—among these, widespread relief from physical drudgery and material want—without succumbing to totalitarianism and, particularly, its malignant variant, fascism.³¹¹

³⁰⁷Letters from Dave to Fred [Arvin], May 14, 19, and 24, and July 17 and 26, 1943. Box 102; Arvin, Newton (Fred) 1943; Lilienthal Papers. Neuse, *David E. Lilienthal*, 134. Clapp, TVA's general manager and Marguerite Owen, its Washington representative, critiqued numerous drafts. William I. Nichols, former director of electric development for TVA, discussed basic themes with Lilienthal from January through April. Lilienthal, *Journals*, 604-606, 609.

³⁰⁸Lilienthal, *Journals*, 612.

³⁰⁹Letter from Ordway Tead, Harper & Brothers, to Mr. David E. Lilienthal, Chairman, Tennessee Valley Authority, October 14, 1943; Letter from David E. Lilienthal, Chairman, to Mr. Ordway Tead, Harper & Brothers. Both of these letters are in Box 104; Harper's 1943; Lilienthal Papers.

³¹⁰Neuse, *David E. Lilienthal*, 134-35. The book by January 1945 "had gone through seven editions, six American and one British, and domestic sales totaled more than 12,000." In December 1944, Lilienthal and Pocket Books agreed on "a first printing of 150,000." The book was also named by the National Education Association as "the most notable book of the year" for 1944. Lilienthal used the proceeds from the book to help defray the costs of entertaining foreign visitors who came to Tennessee to observe and discuss TVA.

³¹¹Letter and attachment from Charles A. Beard to Mr. Lilienthal, January 7, 1944. Box 103; Beard, Charles A. 1944; Lilienthal Papers. Letter from Archibald MacLeish, Librarian of Congress, to Mr. David E. Lilienthal, Chairman, Tennessee Valley Authority, November 29, 1943. Box 103; MacLeish, Archibald 1944; Lilienthal Papers. Letter from Thomas Mann to Mr. David E. Lilienthal, Tennessee Valley Authority, April 19, 1944. Box 103; Mann, Thomas 1944; Lilienthal Papers. Letter from David E. Lilienthal, Chairman, to Dr. Erich Fromm, January 5, 1943; Letter from Erich Fromm to

Lilienthal anchors *TVA—Democracy* in two main currents of the philosophy of his TVA colleague, Harcourt A. Morgan. First, everything necessary for human life depends upon the proper use of the air, water, and the soil. This is best expressed in Morgan's idea of the "common mooring." As the social scientist Erwin Hargrove explains, "People and nature were dependent on each other, and the parts of nature were interdependent. Water and land were linked negatively in soil erosion and positively in care for the soil." Second, people had to actively participate in bringing about desired change, a core component of the "grass-roots" method.³¹² What Lilienthal adds is the emphasis on method. How natural resources are developed, and who they are developed by and for, determines the functions of governments and of international relations.³¹³ For Lilienthal, the soil and the water, the minerals, are what people live by regardless of nationality or creed. Technology, used for beneficent ends, can harness the forces of nature and once harnessed, "the waters, the air, the land, the minerals, the forests" can yield wealth that makes people's lives easier. What happened on the Tennessee River and its tributaries—using water to generate electricity, reducing the risks of flooding, and controlling the watershed so it could support barge traffic and recreational uses, among other changes—could also happen on other rivers.³¹⁴

Making allowances for wartime patriotism, the core of Lilienthal's creed is this: "I believe that through the practice of democracy the world of technology holds

Mr. David E. Lilienthal, Tennessee Valley Authority, January 14, 1943. Both of these letters are in Box 102; Fromm, Erich 1943; Lilienthal Papers.

³¹²Hargrove, *Prisoners of Myth*, 27.

³¹³Lilienthal, *TVA—Democracy*, 5-7.

³¹⁴*Ibid.*, 1-2.

out the *greatest opportunity in all history* for the development of the individual, according to his own talents, aspirations, and willingness to carry the responsibilities of a free man.”³¹⁵ For Lilienthal, the fruits of industrialization, economic and agricultural rehabilitation and prosperity, could be enjoyed without despoiling nature and without overthrowing democratic principles, and the work TVA did in its first ten years was Lilienthal’s proof of such possibilities. By 1933, for example, erosion to varying degrees had damaged seven million of the 8.5 million acres of cultivated land in the Tennessee Valley. “On more than a million acres, the top soil had entirely disappeared.” The Authority that year started its agricultural program which encouraged valley farmers to use their lands as “demonstration farms” to help rebuild the soil with the use of phosphate fertilizers and employ such methods as crop diversification. By 1943, some 20,000 farmers holding nearly three million acres were participating in the program, and seeing the benefits of rejuvenated soils in bigger yields and more income.³¹⁶ Meanwhile, the estimated power production per person was six times higher in 1943 than in 1933, or 2,400 kilowatt hours versus 400 kilowatt hours, respectively. This was proof for Lilienthal that “a high production of electricity per person of population is a requisite of a technical society.”³¹⁷

Accomplishing these and other feats was and would be the province of engineers, scientists, and administrators. The war and TVA’s experience showed that these “fruits of technology and resources that people all over the world will, more and more, demand for themselves.” TVA demonstrated that such rehabilitation and

³¹⁵Ibid., xii.

³¹⁶Ibid., 35-37.

³¹⁷Ibid., 17-18.

development, Lilienthal argued, could preserve the connection between land, water, and humans, and be done within the bounds of democratic-republican governance. By 1943, when Lilienthal wrote this book, humans realized that they could harvest and gather in the fruits of scientific and technological change. “No longer do men look upon poverty as inevitable, or think that drudgery, disease, filth, famine, floods, and physical exhaustion are visitations of the devil or punishment by a deity.”³¹⁸ This moral purpose to uplift, rather than to enslave, peoples to science and technology had to be buttressed with two other principles. “First, that resource development must be governed by the unity of nature herself. Second, that the people must participate actively in that development.”³¹⁹

As Lilienthal began in the fall of 1939 to both develop and refine the approach he uses in his book, criticism of his ideas during the war years generally dealt with the role of the government corporation in the federal system and fears that decentralizing authority would hinder the government’s effectiveness in dealing with national problems. The basic concerns involved the difference in administration based on the area of coverage; risk of duplication of services if Congress established more regional authorities; challenges to the federal system with its division between national, state, and local government; and issues of oversight and accountability.³²⁰

³¹⁸Ibid., 3.

³¹⁹Ibid., 5.

³²⁰All the documents in this paragraph are contained in the Lilienthal Papers, with the box number preceding the folder title. Letter to Hon. David E. Lilienthal, Tennessee Valley Authority, from Ewin L. Davis, Commissioner, Federal Trade Commission, December 21, 1939. Box 101: Federal Trade Commission. Letter to Mr. David E. Lilienthal, Director, Tennessee Valley Authority, from Philip M. Glick. Box 102: Department of Agriculture. Letter to Hon. David E. Lilienthal, Vice-Chairman, Tennessee Valley Authority, from J. Spencer Smith, Commissioner, Interstate Sanitation Commission. Box 101; J. Spencer Smith. “Dogma of Democracy,” *Lincoln Journal*, April 18, 1941. Copy of editorial found in Box 103: *Lincoln Journal*. Letter to Mr. David E. Lilienthal, Director,

Speaking in 1944 in response to *TVA—Democracy*, a professor at the University of Tennessee in Knoxville challenged Lilienthal's view of grass-roots democracy, with its implication of equality between the Authority and the residents of the Tennessee Valley. Dr. Frank Ward, professor of economics, saw the Authority as, in effect, the leader with the valley's residents in a trailing role. He also minimized TVA's accomplishments, agreeing with a respondent that the Authority should have accomplished much because it had much to work with: "A tremendous amount of capital, almost unlimited power to act—power derived from various legal angles and from the persuasive power of funds to spend, and power to attract experts."³²¹

Writing long after the war had ended, longtime TVA attorney Joseph Swidler, one of Lilienthal's first hires in 1933, argued that the book "has done harm by raising unrealistic expectations and lending itself to sinister explanations of this country's failure to follow up on the TVA experience by creating similar agencies in the rest of the country." Swidler noted that in commenting on earlier drafts of the manuscript, he argued that "the book misconceived the basic nature of the TVA and overstated both its importance as an exemplar of improved government administration and the benefits it had conferred on the Tennessee Valley." This is false, Swidler argues, because "the TVA did not displace a single activity or agency of the central government." Swidler lamented that Lilienthal did not put an emphasis upon telling the story of the Authority's battles regarding the power controversies of the 1930s,

Tennessee Valley Authority, from A.G. Black, Governor, Farm Credit Administration, March 4, 1941. Box 101: Harvard Law Review Article.

³²¹Notes from Dr. Frank Ward, Professor of Economics, University of Tennessee. Box 102: TVA—Democracy: Lilienthal Papers. The quotes appear on page 4. On April 5, 1944 in Knoxville, Ward spoke about Lilienthal's book at a meeting of the Commerce Department Employees' Association.

information that he argues would have been more valuable.³²²

Swidler's critique notwithstanding, the critics of TVA and of Lilienthal's approach were targeting the New Deal, which they believed represented an unwarranted intrusion of the federal government into everyday life. To varying degrees, such critics as Ward went along the lines of Ohio Senator Robert A. Taft, who thought deficit spending was folly and who equated governmental regulation and activity with the trend toward "the gradual absorption of all industry into a collectivized state." Taft balked at spending for TVA dams even though, albeit grudgingly, he praised the Authority for its wartime contributions.³²³ The reality of governance and administration, however, had become far too complex for the predominantly laissez-faire approach that Taft espoused. As Lilienthal emphasized in his public writings and addresses, TVA reflected a reality that more accurately characterized far-reaching changes in American political and economic life. In reflecting upon Abraham Lincoln's skillful leadership during the Civil War, historian James McPherson makes a distinction between the idea of negative liberty, or "freedom *from*," and positive liberty, or "freedom *to*."³²⁴ If this analogy is extended to both the TVA and the ideas put forth in *TVA—Democracy*, the relationship between their critics and Lilienthal's message becomes clear. Critics identify in TVA

³²²Joseph C. Swidler, *Power and the Public Interest: The Memoirs of Joseph C. Swidler*, edited and annotated by A. Scott Henderson (Knoxville: The University of Tennessee Press, 2002), 102. Swidler drafted much of the language used in TVA's contracts with distributors and cooperatives, and played a key role in the negotiations for the Authority's 1939 purchase of the Tennessee Electric Power Company properties.

³²³Clarence E. Wunderlin, Jr., ed., *The Papers of Robert A. Taft: Volume 2, 1939-1944* (Kent, Ohio: Kent State University Press, 2001), 9, 189, 328.

³²⁴James M. McPherson, *Abraham Lincoln and the Second American Revolution* (New York: Oxford University Press, 1991), 61-64.

a negative liberty—the freedom from technological dictates and institutional control. TVA and Lilienthal put forth a positive liberty—the freedom to put technology in place so that people could change their lives in a positive manner. Yet, to deal with the consequences of centralization as seen by industrialization, citizens had come to look to Washington for ideas and solutions to the nation’s problems and a strong central government had become a reality for Americans. As Lilienthal argued in *TVA—Democracy*, “the federal government must have large grants of power progressively to deal with problems that are national in their consequences and remedy, problems too broad to be handled by local political units.” The problem lay in centralized administration of those powers, as this could lead to inefficient government and the “progressive atrophy of citizen interest.”³²⁵

Lilienthal’s solution resided between these extremes. “The line of compromise, just roughly, is to decentralize and localize that part of administration which deals intimately with human beings and to centralize those functions in which economies can be effected by large-scale central administration, but in which little or no contact and day-to-day relations with the public are involved.”³²⁶ This was the middle ground between “complete decentralization, which is ruinous to efficiency and to large-scale operation” and centralized administration, which separates itself from the citizenry and thus hinders the functioning of democratic governance.³²⁷ As

³²⁵Lilienthal, *TVA—Democracy*, 141.

³²⁶ Letter and untitled article from Jonathan Daniels, Executive Office of the President, to Miss Marguerite Owen, Tennessee Valley Authority, November 18, 1942. Box 100; Daniels, Jonathan 1942; Lilienthal Papers. A renowned journalist in North Carolina before coming to Washington, Daniels wrote this article on Lilienthal for the Office of War Information. The quotes appear on pages 8 and 9.

³²⁷Lilienthal, *TVA—Democracy*, 148.

Lilienthal said in November 1940, “A democratic government must retain the confidence of the people for whose welfare it must act. When confidence is replaced by uneasiness, fears develop that the granting of further powers may be abused. Democracy cannot thrive in an atmosphere of fear.”³²⁸

When TVA began, this was the broad picture of the South in general and the Tennessee Valley in particular: a region featuring labor-intensive, low-wage employment both in agriculture and in industry; control by conservative Democrats through disfranchisement of African-Americans and many poor whites; and sub-standard health and educational facilities. Such legislators as McKellar wielded immense political clout through the use of patronage and, when it served their purposes, race-baiting.³²⁹ In *TVA—Democracy*, Lilienthal described the type of “politics” that was prevalent in the region and that the Authority fought to avoid: “the appointment of engineers, land buyers, and workmen because they (or their friends or relatives) have helped to elect certain men to office; the preparation of specifications in a way that will favor the bid of some manufacturer who is politically ‘right’; the location of dams where they will win the most votes; in short, the use of TVA for partisan political purposes.” Congress properly made a number of “political decisions” regarding TVA, such as “whether a river should be developed,” how that process should take place, and who would be held responsible for results. What should be left to experts are technical questions and decisions that they are best qualified to pass judgment on, such as “whether the rock at a particular site is a safe

³²⁸Lilienthal, “The TVA: A Step Toward Decentralization,” 6.

³²⁹These and other issues are covered in Tindall, *Emergence of The New South*, and Dewey W. Grantham, *The South in Modern America: A Region at Odds* (New York: HarperCollins, 1994).

dam foundation, or whether a certain kind of truck or transmission tower is best fitted for a job.”³³⁰

What Lilienthal sought for TVA was a viable middle ground at the junction of regulation and administration. In doing this, he demonstrated a sharp contrast between democracy and totalitarianism. For Lilienthal, decentralization was meant to give citizens, through meaningful political participation, opportunities to improve the quality of their lives. As the political scientist Heinz Eulau argued this is not ideological thinking, which “is tender-minded because it is self-indulgent. But in politics, self-indulgence . . . represents an escape from the politics of maturity, not recognition of the potentialities as well as [the] limitations of political life.”³³¹ As the historian Kenneth Davis notes, Lilienthal desired “to ensure that the planning and organization were truly human and neither an elite’s design nor a machine-determined design upon, and against, human freedom.”³³²

While TVA staved off the threats to its autonomy, wartime demands spurred the Authority to fulfill its inaugural mandate and to increase in both size and importance. At the time of *TVA—Democracy*, TVA had twenty-one dams: sixteen the Authority had built or was constructing, and five existing dams that the agency had acquired and modified.³³³ In 1942 alone, TVA was designing and building

³³⁰Lilienthal, *TVA—Democracy*, 179.

³³¹Eulau, “Neither Ideology nor Utopia,” 537.

³³²Davis, *FDR: Into the Storm*, 170.

³³³With the completion of Tellico Dam in the late 1970s, TVA’s river-control system featured thirty-four dams that the Authority either built, or acquired, or agreed to operate as part of its overall system.

twelve dams,³³⁴ making improvements on four others, building a steam plant, and erecting chemical and munitions facilities. In the dam building alone, the 113 million cubic yards of concrete, rock fill, and earth that made up the dams, as Lilienthal noted, “is more than twelve times the bulk of the seven great pyramids of Egypt.” The Authority would successfully complete in various areas what a veteran TVA carpenter called the wartime dam building: “one hell of a big job of work.”³³⁵

In this process, TVA would solidify its place as a major contributor to the Allied war effort and the Tennessee Valley would benefit from, among other contributions, the surge of employment and the infusion of federal monies. As the postwar period loomed, however, the Authority worked to maintain the momentum of the Valley’s wartime growth. Meanwhile, racial segregation and disfranchisement cast its long shadow over the Authority and throughout the war years, TVA remained in the shade rather than step into the glare of the emerging civil rights movement.

³³⁴These projects were: Apalachia, Chatuge, Cherokee, Douglas, Fontana, Fort Loudon, Kentucky, Nottely, Ocoee No. 3, South Holston, Watauga and Watts Bar. Due to a wartime shortage of materials, the South Holston and Watauga projects were suspended in 1942 and completed after the war.

³³⁵Lilienthal, *TVA—Democracy*, 11.

Chapter Six *Racial and Socioeconomic Realities*

In his *Journals*, David Lilienthal recounts how in July of 1942 his teenage daughter voiced her anger and frustration with the racial attitudes and practices that characterized the South in particular and the United States in general. Pointing out how a picnic area at Norris Lake was designated “White Only,” Nancy Lilienthal sought an explanation. As David Lilienthal recounted, “I told her that the feelings about Negroes by most people, Northern and Southern, was a fact, and should be approached as a fact.” After a brief reference to the link between the South’s history and racial discord, Lilienthal continued: “There was no use pretending that there would be anything but social distinctions, and with them segregation, perhaps for generations to come.” Nancy Lilienthal’s response challenged what she perceived as the mostly flaccid explanations regarding why racial separation was so and why it could not be changed—right now, if ever. “But that sign; why is that necessary? It is just like the Nazis and the Jews.” Then she exclaimed, “It’s so unfair; it’s not fair; why isn’t something *done* about it?”³³⁶

In their exchange is illustrated the reality, in regard to its racial practices, that confronted the Authority: the complexities that arose from the interactions of moral imperatives with daily realities. This conflict was not limited to TVA. The history of the United States, argues the historian Gary Gerstle, features a pronounced ideological conflict between “civic nationalism” and “racial nationalism.” The

³³⁶Lilienthal, *Journals*, 516-17. Lilienthal added the italics. David and Helen Lilienthal had two children, Nancy and David, Jr., born in 1925 and 1927, respectively.

former category, as Gerstle points out, is characterized by “the American belief in the fundamental equality of all human beings, in every individual’s inalienable rights to life, liberty, and the pursuit of happiness, and in a democratic government that derives its legitimacy from the people’s consent.” The latter type, however, “conceives of America in ethnoracial terms, as a people held together by common blood and skin color and by an inherited fitness for self-government.”³³⁷ In fighting the Axis Powers and the totalitarianism they imposed upon millions in both Europe and Asia, the war exposed a long-standing contradiction in America—a nation that espoused and stood for individual and national freedom, while racism prevailed throughout its borders and one of its political and geographical entities, the South, consistently practiced and tenaciously defended *de facto* and *de jure* segregation.

This blatant contradiction galvanized such black spokesmen as A. Philip Randolph, who in the summer of 1941 would force President Franklin D. Roosevelt to take federal action barring racial and ethnic discrimination in defense employment. In so doing, Randolph demonstrated to other blacks the gains that could be had by mass action.³³⁸ As the historian John Cell argues, segregation in its various forms was, foremost, a political problem.³³⁹ Randolph’s actions notwithstanding, however, during the war years there was greater political wherewithal to preserve, rather than to abolish, segregation and racial injustice. The writer John Egerton points out that no Southern senator, for example, endorsed the Supreme Court’s 1944 decision, *Smith v.*

³³⁷Gary Gerstle, *American Crucible: Race and Nation in the Twentieth Century* (Princeton: Princeton University Press, 2001), 4.

³³⁸Kennedy, *Freedom From Fear*, 766-68.

³³⁹John W. Cell, *The Highest Stage of White Supremacy: The Origins of Segregation in South Africa and the American South* (New York: Cambridge University Press, 1982), 101-102.

Allwright, which declared illegal white-only primary elections in Texas. This device, along with the poll tax, congressional seniority, and one-party politics, formed the “pillars” of Southern political dominance, and Southern congressmen were determined to keep matters that way.³⁴⁰ Following the *Smith* decision, Attorney General Francis Biddle proposed filing a similar lawsuit in Alabama. A Roosevelt aide, however, told the President that such an action would so anger Southern congressmen that it “would translate impotent rumblings against the New Deal into an actual revolt at the polls.” At this time, the “Solid South” was one of the key components in the New Deal political coalition.³⁴¹

In summarizing his study of Lilienthal’s economic vision, the historian Gregory Field inadvertently makes an important point. “Of course TVA alone could never achieve some startling social transformation, and the agency’s options were constrained by the political environment.”³⁴² Given these realities—the extensiveness of segregation; persistent pressure and attacks from southern congressmen that threatened the Authority’s standing as a federal agency; and wartime demands and requirements—TVA chose to temporize on the issues of racial integration and equality. In these matters TVA edged, albeit with decidedly mixed results, toward what Authority officials perceived as *gradual progress* rather than *rapid change*. In this way, however, TVA acted much like the Roosevelt Administration, which, at

³⁴⁰Egerton, *Speak Now Against the Day*, 398-99.

³⁴¹Kennedy, *Freedom From Fear*, 774-75. The other groups included organized labor, blacks living outside the South, and liberals who primarily lived in the Northeast.

³⁴²Gregory Blaise Field, “David E. Lilienthal and the Modern American State,” (Ph.D. diss., University of Massachusetts, 1994), 296.

times grudgingly, took action on race primarily to keep racial discrimination and violence from disrupting the war effort.

As the war approached, blacks were far worse off in comparison to whites. The historian John Jeffries points out that in 1940, nearly twice as many blacks were out of work while having a median family income of just more than one-third that of whites. Two-thirds of blacks worked in service or unskilled jobs as compared to just one-fifth of whites. Moreover, "One in ten black adults had no schooling, and the median level of education was two-third that of whites. African-American mortality was much higher, life expectancy significantly lower. Black housing was typically segregated, inferior, and overcrowded." Not surprisingly, the long-entrenched patterns of discrimination continued during the initial national defense buildup from 1939 to 1941. As Jeffries argues, in 1940 there were 100,000 aircraft workers in the United States. Of that total, 240 were black and most of these workers were employed as janitors. Most other aircraft and defense firms had a policy similar to that stated by North American Aviation: "The Negro will be considered only as janitors as in other similar capacities. Regardless of their training as aircraft workers, we will not employ them." The United States Employment Service, Jeffries maintains, "honored 'white only' requests from defense industries and the early mobilization agencies similarly acquiesced in such practices and in placing blacks in 'traditional' jobs."³⁴³

³⁴³John W. Jeffries, *Wartime America: The World War II Home Front* (Chicago: Ivan R. Dee, Inc., 1996), 107-108.

During the war, racism's effects could be seen and experienced throughout America. The most destructive urban riots occurred outside the South.³⁴⁴ The armed forces segregated its units and the American Red Cross segregated its blood supplies. Bigotry in its various forms existed everywhere, as shown in comments made by Secretary of War Henry L. Stimson. Racial tensions, he claimed, were caused by "the deliberate effort . . . of certain radical leaders of the colored race to use the war for obtaining . . . race equality and interracial marriages." When it came to expressing and holding racial attitudes, Egerton argues, many whites living outside the South exhibited little difference from most white southerners. "Even in the North and West, a clear majority of whites expressed a preference for segregation, considered the lowly position of blacks to be a direct consequence of their own inadequacies, and anticipated no significant improvement in their status after the war." Sixty percent of whites, according to various opinion polls taken in 1942, stated that blacks already had enough rights and opportunities.³⁴⁵

The realities, however, were far different and during the war millions of Americans would learn why this was so and what changes needed to occur. In the late 1930s the Carnegie Corporation commissioned Gunnar Myrdal, the Swedish economist, to undertake a comprehensive study regarding the status of American

³⁴⁴Kennedy, *Freedom From Fear*, 770. The worst riot occurred in Detroit on June 20-21, 1943. Seeking relief from the sweltering heat, tens of thousands flocked to Belle Isle, a municipal park located on the Detroit River. Fights broke out between black and white teenagers and by late evening, rumors spread that whites had killed three blacks. Black mobs swarmed into the streets and white mobs soon retaliated. By the time federal troops restored order, twenty-five blacks and nine whites had died. The dead included a milkman, slain while making his rounds, and a doctor, beaten to death while responding to a house call.

³⁴⁵Egerton, *Speak Now Against the Day*, 324-25.

blacks.³⁴⁶ Thanks to the corporation's extensive financial and administrative support, Myrdal established a research staff of more than one hundred associates, including many prominent blacks and whites who had long sought to change various aspects of the South's racial attitudes and practices. Myrdal started his research in the fall of 1938 when he and his black American colleague, Ralph Bunche, traveled by car throughout the South. Stunned at first by the enormity of racism and racial injustice, Myrdal and the foundation did not recoil from their task. He continued his investigation during the war and in 1944 he and the Carnegie Corporation published *An American Dilemma: The Negro Problem and Modern Democracy*. Over time, this book became a classic; some of its conclusions would be debated, but its basic premises remained solidly intact. As the historian David Kennedy puts it, "Myrdal's book was in essence a secular sermon." It was a sermon, however, that millions of Americans were prepared to both receive and contemplate.

In two volumes totaling fifteen hundred pages, Myrdal described the magnitude of white racism; whites' mistaken belief that they were superior to blacks; and the dilemma brought about by the conflict between laudable ideals and discriminatory actions. Myrdal argued that all Americans were committed to what he called "the American Creed," which comprised such values as "liberty, equality, justice, and fair opportunity for everybody." Generations of white prejudice, however, had corrupted millions of people and thus corroded their commitment to

³⁴⁶The material in this and the following three paragraphs is drawn from Kennedy, *Freedom From Fear*, 762-68, and Egerton, *Speak Now Against the Day*, 274-77. Prominent blacks on Myrdal's staff included Bunche, Charles S. Johnson, E. Franklin Frazier, Sterling Brown, and Horace Cayton. Prominent whites included Arthur Raper, Thomas Woofter, George Stoney, Guion Johnson, Clark Foreman, and George Mitchell.

living up to these ideals. The tension that resulted from this conflict led to “the American dilemma.” What Myrdal believed, as Kennedy notes, is that if Americans knew what was going on they would be prompted to make the necessary changes. In other words, Myrdal’s approach “consisted in the simple belief that a factual appeal to the better angels of their nature would induce Americans to do the right thing.” What had worked to perpetuate racial injustice is what Myrdal called the “principle of cumulation,” a cycle of “perception, behavior, and discrimination.” This principle, however, could also bring about racial equality: namely, “an objective improvement in the social standing of blacks would diminish white prejudice, opening opportunities for future gain.”

Under this principle, change began occurring even before the United States became a combatant. For starters, some black groups eschewed the old strategy of deferentially submitting their grievances to the occupant of the Oval Office in hopes of receiving favorable action. In the fall of 1940, following a failed meeting with President Roosevelt, Randolph decided on a forceful approach, one that Kennedy calls “a massive public display of Negro strength.” Randolph called for ten thousand blacks to march in Washington, D.C., to protest job discrimination in defense industries and segregation of the armed forces. Many black organizations and newspapers were unsure, even frightened, by Randolph’s boldness but numerous blacks embraced his idea. By late May 1941, Randolph called for one hundred thousand blacks to march down Pennsylvania Avenue in the nation’s capitol. The specter of such an event frightened Roosevelt and he sought to have the march stopped. When the two met on June 18, however, the President’s charm did not sway

Randolph. If the Administration would not act, then the March on Washington Movement would take place on July 1.

The action came in the form of Executive Order 8802, which was issued on June 25, 1941. The policy of the United States, Roosevelt declared, would be “that there shall be no discrimination in the employment of workers in defense industries or government because of race, creed, color, or national origin.” Employers and labor unions were required “to provide for the full and equitable participation of all workers in defense industries.” All federal departments and agencies had to ensure that all “vocational and training programs for defense production” would be administered without discrimination and the order established a Committee on Fair Employment Practice (FEPC) to investigate complaints and take remedial action. Executive Order 8802 did not address segregation in the armed forces. Yet, the document had a powerful effect. Even though Roosevelt was forced to act, his directive “set the nation back on the freedom road that Abraham Lincoln had opened in the midst of another war three-quarters of a century earlier.” As Kennedy argues, “for the first time since Reconstruction, the federal government had openly committed itself to making good on at least some of the promises of American life for black citizens.”

In light of American ideals and certainly by post-1945 standards, TVA’s pre-1945 racial practices were inexcusable. In *TVA and Black Americans: Planning for the Status Quo*, the historian Nancy Grant documents how the Authority failed to fulfill its promise “to treat all the valley inhabitants fairly regardless of race, giving each equal consideration for jobs and benefits.” Instead, TVA dealt with racial matters by acquiescing to the South’s practice of segregation. It did this, primarily,

by not standing four-square against racial discrimination, in policies and in enforcement practices; by maintaining a self-imposed quota when hiring blacks; and by placing them in mostly temporary labor positions, such as in dam construction.³⁴⁷

From its inception, the Authority's racial practices contradicted its self-proclaimed standards. To Grant, TVA is primarily to blame for this discrepancy. The TVA Board never adopted a policy explicitly forbidding racial discrimination and used the "grass-roots democracy" approach³⁴⁸ to evade, even exacerbate, both racial prejudice and segregation. TVA, for example, used segregated work crews, in contrast to prevailing practices in the Tennessee Valley. Finally, the Authority limited the practices and potentialities of its responsibilities regarding social planning. Grant argues that Arthur E. Morgan, despite his prejudiced racial views, was the board member most committed—with the Authority as the primary instrument of such change—to reshaping the Tennessee Valley. The decline of Morgan's influence, and later his firing, effectively squelched the ambitions of those within TVA to engage in broad-scale social planning. Even so, she argues, TVA should have fostered and practiced racial equality and the Authority failed in both of these areas. "The promise, if kept, could have signaled the end of federal sponsorship of racial inequality."³⁴⁹

Throughout her book Grant argues on the basis of what TVA *should* have done: notably, in form and in substance, instigate and practice full integration. At a minimum, this would have included active hiring and promotion of blacks for

³⁴⁷Grant, *TVA and Black Americans*, passim. The quote appears on page 19.

³⁴⁸See Chapter Five of this dissertation, pages 119-122, for a brief description of this approach and some of Lilienthal's views regarding its application.

³⁴⁹Grant, *TVA and Black Americans*, 19-99 passim.

professional and high-level labor positions; neither *de facto* wage differentials³⁵⁰ nor discrimination; and blacks and whites working side by side without racial conflict or physical and administrative retribution. But when considered within the gray spectrum of American political and socioeconomic realities—what the Authority realistically *could* have done before and during the war—Grant’s argument is problematic because the situation TVA faced was far more complex.

The Authority operated in a region that faced numerous economic, political, and social deficits—among these, poor education, widespread poverty and public health concerns, and large-scale voter disfranchisement. Speaking about black and white farmers in the area of the Wilson and Wheeler Dams, Grant notes that “both blacks and whites owned, on the average, one suit of clothing, suffered from the vitamin deficiency diseases pellagra, rickets, and scurvy, and lived in unheated, unpainted, unsealed dwellings.” In addition, “sanitation facilities were nonexistent, and many families suffered from lice, worms, and dysentery.”³⁵¹ The Authority, moreover, operated in a region that traditionally distrusted the presence of the federal government and that long advocated local control of politics and political matters. Unlike some federal agencies, such as the Federal Trade Commission, the Authority did not have quasi-regulatory powers; it could not mandate local and state compliance with TVA directives.³⁵²

³⁵⁰TVA’s stated policy called for equal pay for blacks and whites working under the same job classifications. But, if a black worker was laid off after six months while a white worker was laid off after one year, such a practice would comprise a type of wage differential in regards to overall pay.

³⁵¹Grant, *TVA and Black Americans*, 77.

³⁵²The author is indebted to William Bruce Wheeler for the latter observation.

As the historians William Bruce Wheeler and Michael McDonald point out, the Tennessee Valley was particularly vulnerable to economic hardship. The geographical realities of the Tennessee River watershed and the Appalachian Mountains meant that the best land lay on the plains of the main river. Once early settlers had bought up the fertile lands on the valley's "floor," later settlers were forced on to the less fertile ridges and hills of the Blue Ridge and Cumberland mountain chains. Further economic development exacerbated this division. The "floor" cities of Knoxville and Chattanooga prospered from industrialization and railroad traffic after the Civil War, while those who lived in the hills eked out a precarious living. People began moving from the hills to the Valley's towns and cities. The Valley's economy started slowing after 1910 then plummeted during the Depression, triggering widespread outmigration from the region. By 1930, the Valley was "already in an economic and demographic crisis."³⁵³

Racial discrimination, meanwhile, permeated all aspects of southern life, as demonstrated in part by the careers of two black officials at TVA. These men were examples of the complex and deplorable realities of race and racial matters in the South, and in working for a federal agency that for various reasons, mostly acquiesced to this state of affairs.³⁵⁴ J. Max Bond and J. Herman Daves were employed, respectively, from 1934 to 1939 and from 1939 to 1963 as "supervisor of Negro training," a classification which later included education. This position, as

³⁵³William Bruce Wheeler and Michael J. McDonald, "The Communities of East Tennessee, 1850-1940: An Interpretive Overview," *East Tennessee Historical Society* 58-59 (1986-87): 3-38 passim. The quote appears on page 31.

³⁵⁴The information in this and the following paragraph is taken from Grant, *TVA and Black Americans*, 109-29.

Grant maintains, actually involved being an “assistant personnel officer” who was “to plan and promote useful training programs based on the specific needs of Negro employees.” In this post both Bond and Daves would, in effect, become a liaison between TVA and blacks in the Tennessee Valley. Both men spoke before black gatherings and Daves represented TVA at civil rights’ conferences and as an official spokesman to black communities.

Bond and Daves would also experience what Grant describes as “the conflict between personal conscience and organizational loyalty.” Both men were proud of their positions within the Authority and would defend their staffs from internal and external criticism. Both men were frustrated by TVA’s reluctance, often its unwillingness, to instigate and foster equal employment for blacks. Both dealt with their frustrations in different ways. Bond supplied—at first covertly, later overtly—information about the Authority to the NAACP. The latter organization used this and other data to criticize TVA policies, even to threaten legal action to force change. Daves, meanwhile, decided to “emphasize patience and [he] remained in TVA.” Speaking in a 1975 interview, Daves noted three factors that hindered his efforts to end discrimination. First, TVA chose not to challenge the region’s traditional practices of segregation. Second, many blacks chose not to apply for jobs in TVA that blacks, traditionally, did not hold in the South. Third, he attributed the small number of blacks in white-collar jobs to a shortage of well-trained black applicants.

In spite of these problems and shortcomings, however, TVA during the war employed tens of thousands of workers and dispensed millions in payroll. For example: In a thirteen-month period at the height of the war, from December 1942

through December 1943, the Authority employed between 24,000 and 36,000 workers while paying just over \$72 million in wages. Largely owing to TVA's massive construction program, approximately one-half to two-thirds of those employed were in trades and labor jobs, both hourly and annual, with the remainder composed of salaried positions. This distribution remained constant throughout the rest of the war.³⁵⁵ The size of TVA's work force, however, declined as the war progressed. From a high of about 42,000 employees in mid-1942, the Authority employed approximately 12,700 workers as of September 30, 1945.³⁵⁶ The combination of completing major construction projects and restrictive federal mandates requiring employment reduction,³⁵⁷ as one way of saving money for the war effort, were the main reasons for the decrease.

Various wartime projects and developments indicate that the Authority hired workers from both rural and urban areas. From 1940 to 1945, TVA erected most of its dams—Cherokee, Douglas, Hiwassee, Fontana, among others—on tributaries of the Tennessee River. Given the remote locations along with fuel rationing TVA likely continued its prewar practice of hiring, as hourly trades and labor employees,

³⁵⁵The employment and payroll figures are taken from the "Monthly Personnel Reports to [the] Joint Committee on Nonessential Federal Expenditures," for the months of December 1942 through December 1943. Found in TVA, RG 142, GM/Administration files; Box 399; File 210.1391; Estimates and Statement of Personnel Needs and Requirements, 1941-1943.

³⁵⁶Memorandum to Gordon R. Clapp, General Manager, from George F. Gant, Director of Personnel, "Employment of Negroes," November 14, 1945. Found in TVA, RG 142, Division of Personnel files; Box 69; File 120 C 3; Employment of Negroes, 1945.

³⁵⁷See, for example, Memorandum to the Board of Directors from Gordon R. Clapp, General Manager, "Bureau of Budget—Personnel Ceilings," November 20, 1945; Memorandum to Miss Marguerite Owen, Washington Representative, from George F. Gant, Director of Personnel, October 29, 1945; Letter to Gordon R. Clapp, General Manager, Tennessee Valley Authority, from Harold R. Smith, Director, Bureau of the Budget, October 22, 1945. All these documents are contained in TVA, RG 142, GM/Administration files; Box 398; File 210.1391; Estimates and Statements of Personnel Needs and Requirements, 1945.

unskilled laborers from the areas nearest the dams.³⁵⁸ During the war, TVA required a 48-hour workweek—40 hours at regular pay, with the remaining time paid at the overtime rate of time and one-third. As of September 1942, the Authority employed just over 10,500 laborers at 50 cents an hour and approximately 800 jackhammer operators at 75 cents an hour. In contrast, approximately 1,900 carpenters and 450 electricians were employed at, respectively, hourly rates of \$1.25 and \$1.50.³⁵⁹

From its origin, the Authority was committed to forming and maintaining excellent labor-management relations. This stance was consistent with two initiatives: New Deal measures that backed organized labor and TVA's mandate of helping boost the wages and working conditions of Tennessee Valley residents. TVA's stance, argues the economist Michael D. Rogers, was supported by the American Federation of Labor and its related affiliates. During the Muscle Shoals debates of the 1920s, the AFL urged "the public control of water resources—the services provided from such control made available to the people at cost."³⁶⁰ AFL officials also realized that if TVA was successful, labor in the Valley would benefit as well. To Marion Hedges, research director for the International Brotherhood of Electrical Workers, workers had to comprehend "that our economic lives are bound

³⁵⁸"Comments by Gordon R. Clapp to the Joint Congressional Committee on the brief filed by Mr. Charles R. Houston Concerning the Tennessee Valley Authority and the Negro," undated, page 4. Contained in TVA, RG 142, GM/Administration files; Box 401; File 210.2221; Negroes, thru 1939.

³⁵⁹Chart, "Hourly T & L Employees as of September 30, 1942. Schedule A—Construction Work and Temporary Operating and Maintenance Work." Appendix to Letter to the Honorable Harry F. Byrd, Joint Committee on Reduction of Nonessential Federal Expenditures, from Gordon R. Clapp, General Manager, Tennessee Valley Authority, January 1, 1943. Found in TVA, RG 142, GM/Administration files; Box 399; File 210.1391; Estimates and Statements of Personnel Needs and Requirements, 1941-1943.

³⁶⁰Michael Dale Rogers, "Collective Bargaining in the Tennessee Valley Authority: The Trades and Labor Experience" (Ph.D. diss., The University of Tennessee, 1973), 53.

up inescapably with the project [TVA]. If it prospers, we prosper. If it succeeds, we succeed. If it fails, we fail.”³⁶¹

The Authority, with substantial input from labor interests, implemented in 1935 its Employee Relations Policy. Among other provisions this directive acknowledged, in effect, that TVA workers had the right to both organize and choose their union, even if this meant being represented by non-TVA personnel. This policy also reflected the Authority’s commitment to the process of collective bargaining, and its willingness to reach a mutual accommodation over issues specific to it as a government corporation: namely, respecting both the principle of government sovereignty and the policy of merit and efficiency in personnel matters and performing its operations. This relationship was further formalized with the formation in 1937 of the Tennessee Valley Trades and Labor Council. Composed of fifteen craft unions, the Council became the main negotiating representative of all the trades and labor employees employed by TVA. By February of 1940 the Authority and the Council had negotiated the provisions of the first General Agreement and this contract would provide the framework for later TVA-labor negotiations.³⁶²

TVA strove to maintain good relations with the Council. In June 1944, for example, the Authority sought an exemption from proposed changes to federal leave laws—provided that the council also agreed—to maintain its independence and wide scope of freedom in collective bargaining. Going along with the exemption, however, would have meant that the council’s membership, based on the prevailing

³⁶¹Marion M. Hedges, “Old Man River and the Life of One Worker,” *The Federationist* (November 1937), 10. Taken from Rogers, “Collective Bargaining,” 55.

³⁶²See Rogers, “Collective Bargaining,” 56-285, *passim*.

practices in the area, would have effectively lost two weeks of vacation time—this at a point when the council sought to push private industry to grant longer vacations. When the council balked at these consequences, TVA chose not to seek the exemption.³⁶³

The growth of the Authority and its contributions to the war effort, meanwhile, meant that TVA, as stated in one advertisement, needed “scientists, clerks, engineers, and administrative officers, as well as laborers and craftsmen.” The Authority was seeking “women and non-draftable men in professional, subprofessional, administrative, skilled and semi-skilled work.”³⁶⁴ Under clerks and junior clerks could start at \$1,620 a year, with an increase to \$1,971 annually after one year of satisfactory service. Public safety officer trainees could start at \$1,750 annually, and also receive an increase to \$1,971 after one year. A person with an eighth-grade education, meanwhile, could become a chemical plant operator trainee and have an annual starting salary, combining both regular pay and overtime, of approximately \$1,560.³⁶⁵

Wartime employment matters also included the consequences of hiring women in vast numbers. Some 16.5 million women nationwide—a figure constituting 36 percent of the civilian labor force at its wartime peak—were

³⁶³ Memo from George F. Gant, Director of Personnel, to Gordon R. Clapp, General Manager, June 29, 1944, TVA Archives.

³⁶⁴ Advertisement, “TVA needs you to serve the nation in war and peace,” March 1944. Found in TVA, RG 142, GM/Administration files; Box 40; File 210.14; Hire of Employees, 1943-1945.

³⁶⁵ Various employment notices, Tennessee Valley Authority, 1944. Contained in Found in TVA, RG 142, Division of Personnel files; Box 69; File 121; Employment, 1939-1946.

employed during the war.³⁶⁶ Defense industries—shipbuilding, aircraft manufacturing, and munitions production, among others—that hired women in large numbers reported large gains in both productivity and effectiveness.³⁶⁷

Within TVA, and acting in response to a shrinking male labor pool, the Authority temporarily modified its prevailing employment patterns for its female employees. The historian Patricia Howard states that TVA employed 13,600 workers in September 1942 at its offices in Knoxville, and at the Fort Loudon and Douglas Dam projects. At that time, women only worked in office jobs. The number of women employed in Knoxville plants devoted to war manufacturing, meanwhile, totaled more than 14,000 in September 1943. “At this time, women comprised 39 percent of the total persons employed in manufacturing.” In the spring of 1943, in response to the increasing number of male employees being called up for wartime service, the Authority began advertising for and training women to act as guards for TVA properties. Approximately seventy applied and twenty-two were selected. They, along with sixty-three men, attended training sessions at Watts Bar Dam. Those women who were trained became known as Women’s Officers of Public Safety (WOOPS), and they received training in such areas as “judo, riflery, fire

³⁶⁶Richard Polenberg, *War and Society: The United States, 1941-1945* (Philadelphia: J.B. Lippincott Company, 1972), 146.

³⁶⁷See Chester W. Gregory, *Women in Defense Work During World War II: An Analysis of the Labor Problem and Women’s Rights* (New York: Exposition Press Inc., 1974), especially chapters six through nine, 67-119, passim.

fighting, and guard dog handling.” When on duty, women guards carried .38 caliber pistols.³⁶⁸

While labor and gender matters posed their own specific challenges, the Authority was still confronted by the greater problems of black employment and race relations. Facing black pressure for change and white determination to maintain the status quo, TVA basically treated Executive Order 8802 and its related directives as a political minefield. The Authority, in form at least, had to comply with Roosevelt’s directive without stirring up white racial hostility. This would be difficult; Randolph’s success had galvanized blacks nationwide. Their leaders had become more unified and more strident in their demands for racial equality, as symbolized by the “Double V” campaign: winning democracy at home as well as victory overseas. This and other forms of protest and the realities of wartime—namely, whites and blacks fighting, working, even dying together—prompted a widespread re-evaluation of racial attitudes. During a 1944 protest, one of the signs picketers carried outside a Washington, D.C., restaurant put it this way: “We Die Together. Let’s Eat Together.”³⁶⁹ Black insistence, meanwhile, stoked white resistance. Congressman Charles McKenzie, a Democrat from Louisiana, condemned Eleanor Roosevelt for attending a February 1944 mixed-race event in which black servicemen danced with white women. Decrying “this dishonor to American womanhood,” McKenzie was quoted as stating: “How can anyone be a party to encouraging white girls into the

³⁶⁸Patricia Brake Howard, “Knoxville’s Rosies: The Impact of World War II on Women Production Workers of Knoxville, Tennessee” (Ph.D. diss., University of Tennessee, Knoxville, 1988), 36-37, 43-44, 93-94.

³⁶⁹Kennedy, *Freedom From Fear*, 768.

arms of Negro soldiers at a canteen dance while singing 'Let Me Call You Sweetheart'?"³⁷⁰

The Authority sought to satisfy federal directives regarding non-discrimination in wartime hiring while acknowledging and remaining within existing forms and practices of segregation. TVA developed a three-fold approach: "a non-discriminatory wage policy, employment in proportion to the Negro population of the Valley area, and efforts to expand and extend occupation opportunities."³⁷¹ The Authority had used the first two policies since its formation and throughout the war, TVA kept its black employment in proportion with the Valley's black population, or approximately 10 percent. Thus, in December 1943 the Authority employed some 2,500 blacks in a work force totaling just over 24,000. As total employment declined, so did the number of blacks working for TVA. The third provision, meanwhile, reflected this reality: that TVA's dam-building phase—the largest source of black employment within the Authority—would be substantially completed by war's end. Figures gathered in April of 1941 showed that in comparison to the entire TVA work force, blacks made up just over 15 percent of the temporary hourly employees; more than 14 percent of the "relatively permanent annual trades and labor positions"; a little more than 6 percent of annual employees; and 3.6 percent of the annual non-trades and labor positions. To keep to the 10 percent hiring quota, TVA would have to hire more blacks for permanent positions.

³⁷⁰Associated Press, "Mixing of Races at CIO Canteen Draws New Fire," February 15, 1944. News clipping found in Official File 93; Colored Matters (Negroes), Jan-March 1944; Roosevelt Library.

³⁷¹Letter to the Honorable Archibald MacLeish, The Director, Office of Facts and Figures, from David E. Lilienthal, Chairman, Tennessee Valley Authority, May 19, 1942. Found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

In an August 1941 memorandum in regard to the hiring of blacks, TVA reaffirmed its policy that hiring remained based on merit. Employment of blacks “in proportion to the Negro population in the Tennessee Valley area” would be step one and hiring blacks in “such additional occupations as is feasible” would be step two. Feasibility would be determined by candidates’ qualifications and “by work opportunities when employment patterns of an area make it possible to add occupational opportunities to those now available to Negroes.”³⁷² That same month TVA’s main union organization, the Tennessee Valley Trades and Labor Council, agreed to support the Authority in training blacks for positions in TVA’s Department of Chemical Engineering. The Council agreed both to provide representatives to the Joint Training Committee and that the training program “should give full consideration to Negroes as apprentices for those trades represented *by unions which make provisions for Negro participation.*”³⁷³

The approach outlined in the memorandum and the related report delighted two of TVA’s most influential officials: Chairman David Lilienthal and General Manager Gordon Clapp. Lilienthal appreciated how the policy gave the Authority time to consider methods to implement its main provisions. He also reaffirmed TVA’s acute awareness of racial realities in its hiring practices. “In a matter with so many ramifications and necessarily so many overtones of a delicate, but none the less

³⁷²Memo to Gordon R. Clapp, General Manager, from George F. Gant, Acting Director of Personnel, Tennessee Valley Authority, August 25, 1941. Found in Records of the Tennessee Valley Authority, National Archives/Southeast Region, Record Group 142; Power Manager’s Files; Box 128; File 302.5: Negroes. Hereafter, this collection is cited as TVA, RG 142, Power Manager’s Files.

³⁷³Letter to S.E. Roper, President, Tennessee Valley Trades and Labor Council, from Arthur S. Jandrey, Director of Personnel, Tennessee Valley Authority. August 18, 1941. Found in TVA, RG 142, Power Manager’s Files. The italicized sentence was underlined in the original document.

real, nature, a period of time during which to analyze the next step to be taken will greatly facilitate a fair and sensible decision.” Clapp, meanwhile, approved how these measures were integrated into the Authority’s policy of merit-based hiring. The approach “should assure prevalence of a practical justice in a system of selection and placement available alike to all citizens interested in competing on the basis of training, experience, and ability for an opportunity to serve the public as employees of the Authority.”³⁷⁴

Increasing black employment, however, would require TVA to overcome various forms of resistance. Outside the Authority, the Tennessee Valley Trades and Labor Council consistently excluded blacks from joining its various unions, while the Authority’s stated policy of a non-differential wage scale varied from the region’s widespread practice of paying blacks less than whites for the same work. Within TVA, its insistence on having mostly segregated work crews and the prejudiced views of white supervisors often meant that blacks were not hired for certain jobs. In addition, TVA from its inception had made only half-hearted efforts to develop a program for black employment.³⁷⁵ During the congressional probe of TVA in 1938 and 1939, such NAACP officials as Special Counsel Charles Houston labored to prepare a solid case against the Authority. During his testimony before the joint committee, Houston presented “forty-five exhibits consisting of letters to TVA

³⁷⁴Memo to Gordon R. Clapp, General Manager, from David E. Lilienthal, Chairman of the Board, September 22, 1941; Memo to George F. Gant, Acting Director of Personnel, from Gordon R. Clapp, General Manager, August 26, 1941. Both documents are contained in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

³⁷⁵Memo to George F. Gant, Acting Director of Personnel, from the Departmental Committee on Race Relations, August 25, 1941. Found in TVA, RG 142, Power Manager’s Files; Box 128; File 302.5: Negroes.

officials, TVA memoranda, particularly from the legal staff, published NAACP articles from *Crisis*, affidavits, and statements from black TVA workers and black leaders in the valley communities.” Their evidence and testimony prompted the committee, in its final report, to criticize TVA for the discrepancy between the Authority’s claim of non-discrimination and the discriminatory practices that frequently occurred.³⁷⁶

To comply with the mandate of Executive Order 8802, the Authority crafted various policies in which the responsibility for hiring more blacks fell upon the mostly white personnel officers and supervisors in TVA’s various departments and divisions. Yet, these employees frequently resisted compliance and hotly defended themselves against charges to the contrary. In October of 1941, the northern Alabama local of the hod carriers’ union alleged that the Authority’s Power Construction Division refused to hire blacks to work on installing a power line running from Guntersville Dam to Huntsville, Alabama. According to the union’s business agent, a TVA personnel officer and a general foreman told him “that no Negroes are going to be employed on this power line.” The construction superintendent and project foreman denied making this statement, but they admitted that blacks were never hired for “the construction of transmission lines, rural lines, and substations.”³⁷⁷ Given the history of white racial antipathy toward black workers

³⁷⁶Grant, *TVA and Black Americans*, 125-29.

³⁷⁷Letter to O.A. Waldrop, Personnel Representative, Power Operations Department, from R.E. Lovelace, Secretary, Local Union #1113, International Hod Carriers’ Building and Common Laborers’ Union of America, undated; Memorandum to H.O. Murphy, Chief, Power Construction Division, Chattanooga, from O.A. Waldrop, Construction Superintendent, Guntersville, November 4, 1941; Memorandum to H.O. Murphy, Chief, Power Construction Division, Chattanooga, from H.J.

at TVA dam projects, the union's story likely has more merit. As Grant notes, during the construction of Chickamauga Dam near Chattanooga, racial relations were so bad that the congressional Joint Committee to Investigate the TVA ordered the Authority to "conduct a thorough and impartial investigation of race relations at Chickamauga." In one instance there, a black employee sought to raise his job classification from flagman to rigger. Before this worker was fired, his foreman rejected his request, stating, "We will not have any more nigger riggers."³⁷⁸

Even with these and other examples of defiance and insubordination, the Authority in its written correspondence explained and defended its position and practice regarding the hiring and placement of blacks. Specifically, this involved using quotas—hiring blacks in proportion to their population in the Tennessee Valley—to fulfill the Authority's standard of hiring based on merit and efficiency. In the wake of Executive Order 8802, TVA refined this standard by calling for employment of blacks "in such additional occupations as may be feasible." TVA defined feasibility as being "determined by the qualifications of available candidates and by work opportunities when employment patterns of an area make it possible to add occupational opportunities to those now available to Negroes." In all cases, moreover, the Authority would remain within the region's racial practices and customs. With minor variations, the above language also became part of the standard rejoinder that TVA used when responding to specific allegations of racial

Houston, General Foreman, Guntersville, Alabama, November 10, 1941. All these documents are found in TVA, RG 142, Power Manager's Files.

³⁷⁸Grant, *TVA and Black Americans*, 58. The Authority's report on race relations at Chickamauga Dam, prepared by then-Personnel Director Gordon Clapp, "concluded that negative attitudes were prevalent among white supervisors, and that black workers were not fully utilizing the TVA grievance procedures, fearful that if they openly complained they would be fired."

discrimination in hiring. The Authority also touted internal programs designed to increase employment opportunities for blacks, such as training operators and laboratory technicians for the Department of Chemical Engineering, located at Wilson Dam near Muscle Shoals, Alabama.³⁷⁹

Blacks, however, generally remained skeptical about the Authority's claims and intentions. In November of 1943 a black carpenter, John Reed of Chattanooga, wrote to Lilienthal asking why blacks had never been employed as carpenters on any of TVA's dam projects. Stating that the Authority should address the matter honestly, Reed wrote that "my generation grew up disappointed. Will we let the next generation do likewise?" When the Personnel Department was directed to draft a reply on Lilienthal's behalf, the General Manager's office supplied this directive: "Don't go into long debate about personnel policy. If there are now negro carpenters, say so. If not, say attaching statement of policy, etc." TVA's response the following month, signed by Clapp, claimed that black carpenters were not qualified to perform heavy construction work for the Authority. Reed's rejoinder, written in February of 1944, lambasted TVA's stance. "The kind of war that is being waged at present is entirely new and I dare say that 95% of our soldiery had not the desired experience. So, the argument that the Negro carpenter has not had the experience required by

³⁷⁹ As examples of this approach, see letter to George M. Johnson, Assistant Executive Secretary, President's Committee on Fair Employment Practice, from George F. Gant, Director of Personnel, Tennessee Valley Authority, August 22, 1942; letter to Dr. Howard W. Odum, University of North Carolina, from George F. Gant, Director of Personnel, Tennessee Valley Authority, August 28, 1943. Both documents found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

T.V.A. is very flimsy; it is also UNDEMOCRATIC.”³⁸⁰ In May 1943 the president of the Knoxville NAACP chapter, B.B. Evans, questioned news reports of TVA’s claims that black workers had been integrated into all the Authority’s job classifications and that they were active participants in TVA’s job-training programs. “It seems to us the stories were somewhat misleading,” Evans wrote. The Authority’s respondent defended the information and brushed off Evans’s request for a meeting, adding that “I assume that you do not question the desirability of our informing the press of the very real contribution that Negro employees are making to the TVA war effort.”³⁸¹

Throughout the war, blacks and whites challenged the Authority over racial hiring. In October of 1941, fifteen black carpenters applied for employment with TVA. None had been hired by the following April. This prompted the United Brotherhood of Carpenters and Joiners to file a complaint with the President’s Committee on Fair Employment Practice, alleging discrimination by the Authority. In a series of letters to the FEPC, TVA’s personnel director argued that the complaint was based on this premise: “that because a Negro carpenter applied for work he is *a priori* qualified in greater degree than others who have applied for work with the Authority and therefore discriminated against if not employed.” Yet, Gant noted a

³⁸⁰Letter to David E. Lilienthal, Chairman, Tennessee Valley Authority, from John W. Reed, November 22, 1943; Note “re letter from John Reed of 11/22/43,” November 26, 1943; Letter to John W. Reed from Gordon R. Clapp, General Manager, Tennessee Valley Authority, December 11, 1943; Letter to Gordon R. Clapp, Tennessee Valley Authority, from John W. Reed, February 12, 1944. All contained in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953. Reed added the emphasis.

³⁸¹Letter to George Gant, Director of Personnel, T.V.A., from B.B. Evans, President, National Association for the Advancement of Colored People, Knoxville Branch, May 10, 1943; Letter to B.B. Evans, President, National Association for the Advancement of Colored People, from George F. Gant, Director of Personnel, Tennessee Valley Authority, May 19, 1943. Found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

gross discrepancy: that the Authority had more than 3,900 applications from carpenters on file and that it employed nearly 1,900 carpenters. Of that latter total, one was black.³⁸²

In another letter, meanwhile, Gant pointed out the context that TVA operated in: whites' tendency to create upheaval when they perceived a threat to existing racial mores, or what Gant referred to as the "community relations aspects of employment practices."³⁸³ When blacks reported to work at the Fontana Dam site, whites threw stones at them and threatened to lynch these workers. On the first evening, someone tried to burn down the dormitory that housed black workers. In commenting on quelling racial tensions at Fontana, General Manager Gordon Clapp observed that, "Because the policy is designed to carry out the President's order for full utilization of manpower, its feasibility is of direct consequence in our successful war effort. It was inevitable that application of this policy in the setting of the Fontana project would be complicated by purely local or individual points of view and tradition."³⁸⁴ Gant also cited how work on Kentucky Dam was shut down for two days due to racial tensions. At the Apalachia Dam project in western North Carolina, TVA safety officers had to protect black flagmen from the threats of white residents. "To

³⁸²Letter to George M. Johnson, Assistant Executive Secretary, President's Committee on Fair Employment Practice, from George F. Gant, Director of Personnel, Tennessee Valley Authority, May 11, 1942. Found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

³⁸³Letter to Lawrence W. Cramer, Executive Secretary, President's Committee on Fair Employment Practice, from George F. Gant, Director of Personnel, Tennessee Valley Authority, May 8, 1942. Found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

³⁸⁴Grant, *TVA and Black Americans*, 60. Memorandum, "Introduction of Negro Employees at Fontana," to Colonel T.B. Parker, Chief Engineer, and L.N. Allen, Director of Reservoir Property Management, from Gordon R. Clapp, General Manager, July 14, 1942. Found in TVA, RG 142, GM/Administration files; Box 401; File 210.2221, Negroes or Colored, 1940-1953.

disregard this factor,” Gant stated, “would seem extremely inadvisable as well as inconsistent with the principle of merit and efficiency.” Yet, it would be wrong “to permit this factor to operate in such a way as to permit judgments which are discriminatory in effect.” As a consequence, Gant argued for wide latitude in TVA’s interpretation of the FEPC’s urgings and recommendations.³⁸⁵

As it related to America’s war effort the federal government took seriously the matter of how the nation’s racial problems would play overseas, especially as propaganda for the Axis Powers. As noted in the spring of 1942, the government sought to convey that the war was not “a racial struggle in which the ‘dark races’ are on the other side.” Action, particularly in hiring by federal departments and agencies, would go a long way toward demonstrating America’s sincerity in helping blacks to “be freed from discriminatory restrictions.” Such efforts included “reducing discrimination in those areas like the Armed Services, Civilian Defense, and the defense industries where the issues have taken on, in Negro opinion, symbolic significance.”³⁸⁶ These comments augmented recommendations made in June 1941 and supported by the United States Civil Service Commission. This panel urged the federal government to establish “a positive long-range program for applying the policy of non-discrimination in employment with respect to Negroes and other

³⁸⁵Letter to Lawrence W. Cramer, Executive Secretary, President’s Committee on Fair Employment Practice, from George F. Gant, Director of Personnel, Tennessee Valley Authority, May 8, 1942. Found in TVA, RG 142, GM/Administration files, Box 401; File 210.2221, Negroes or Colored, 1940-1953.

³⁸⁶Letter to the Honorable David E. Lilienthal, Chairman, Tennessee Valley Authority, from Archibald MacLeish, The Director, Office of Facts and Figures, April 8, 1942. Found in TVA, RG 142, GM/Administration files, Box 401; File 210.2221, Negroes or Colored, 1940-1953.

minority groups.”³⁸⁷ Yet, the necessities of prosecuting the war and the realities of domestic politics meant that for Roosevelt and leading members of the military and his administration, winning the war became their top priority. In 1942, a Chicago-based foundation sought the government’s help in taking steps to boost the morale of the world’s “colored peoples.” In turning down this request, Roosevelt replied that “I am not convinced that we can be realists about the war and planners for the future at this critical time.”³⁸⁸ In December 1943, the National Council of Negro Women proposed that noted black leader Mary McLeod Bethune visit various war fronts to speak with, and to help boost the morale of, black soldiers. At first, both President Roosevelt and Eleanor Roosevelt thought this idea had merit, but they later deferred when a presidential aide stated, “The Army does not want her to go.”³⁸⁹

For some in the administration, eradicating long-standing racial frictions and injustice was not even a secondary issue; it was viewed as a downright annoyance. James Rowe, Jr., assistant to the Attorney General, responded in an exasperated manner to complaints lodged by Ed Flynn, one of the leaders of the Democratic Party. Flynn had complained that when it came to recommending candidates for

³⁸⁷Council of Personnel Administration, “Report of a Committee of the Council of Personnel Administration upon Problems of Minority Groups in Government,” June 26, 1941. Letter to The President from Lucille Foster McMillin and Arthur S. Fleming, Commissioners, United States Civil Service Commission, July 21, 1941. Both documents are contained in Official File 93; Colored Matters (Negroes), Aug-Dec. 1941; Roosevelt Library.

³⁸⁸Letter to Edwin Embree, President, Julius Rosenwald Fund, from Franklin D. Roosevelt, March 16, 1942. Found in Official File 93; Colored Matters (Negroes), 1942, March-April; Roosevelt Library. Under Embree’s proposal, a government commission would be formed to examine and implement actions to dissipate racial tensions, both during and after the war, in the United States and the rest of the world.

³⁸⁹Letter to The President from Jeanetta Welch Brown, Executive Secretary, The National Council of Negro Women, Inc., December 30, 1943; “Memorandum for Mrs. Roosevelt” from F.D.R., January 3, 1944; “Memorandum for the President” from E.R., January 7, 1944; Memorandum for The President from Jonathan Daniels, January 15, 1944; Letter to Miss Jeanetta Welch Brown from Franklin D. Roosevelt, January 15, 1944. All documents found in Official File 93; Colored Matters (Negroes), Jan-March 1944; Roosevelt Library.

Administration appointments, his choices lost out to those put forth by Walter White, NAACP executive secretary. In his original memorandum, Rowe criticized the Democratic National Committee for doing a poor job in recommending black lawyers for the Department of Justice; defended the non-appointment of one of Roosevelt's Harvard classmates to a United States Attorney post; and chastised the DNC for not cultivating better relationships with blacks. "The simple fact is that we forget about the Negroes except during campaigns and then in desperation we have to turn to Walter White and Philip Randolph, who are experts in handling pressure groups." Because of this situation, Rowe claimed, White and Randolph "always have the Administration 'over a barrel' because the Democratic Committee simply doesn't have vigor enough to organize a good Negro group which could be played off against the Walter White group."³⁹⁰

In another example a long-time white southern liberal, Mark Ethridge, conveyed his irritation over the persistence and scope of black demands for racial change. Writing in August of 1941 Ethridge, the chairman of the Fair Employment Practices Committee, complained about black expectations. "As you know, the Negroes wanted the executive order as a sort of second Emancipation Proclamation. They wanted the setup entirely outside of OPM [Office of Production Management] with [New York Mayor Fiorello] La Guardia as chairman and, I suppose, somebody like Winston Churchill would have satisfied them as executive secretary." As a

³⁹⁰,"Memorandum for the President" from James Rowe, Jr., April 15, 1942; "Memorandum for Jim Rowe" from F.D.R., April 23, 1942. Contained in Official File 93; Colored Matters (Negroes), 1942, March-April; Roosevelt Library. The revised April 15 memorandum deleted the references to Roosevelt's Harvard classmate, James Woolf, and to the Democratic Committee's paltry efforts to increase black voting strength.

public relations move to mollify black criticism, Ethridge urged that Roosevelt sign and disseminate a letter mandating that federal departments and agencies also comply with the provisions of Executive Order 8802. "It seems to me that it would be a brilliant and dramatic stroke if the President would sign the letter . . . I think it would do more to show action than anything else." With the help of Steve Early, Roosevelt's press secretary, Ethridge got his wish.³⁹¹ Ethridge's remarks generally reflected the approach of those southerners who believed that liberalism and segregation were compatible. These southern liberals—Virginius Dabney, John Temple Graves, Hodding Carter, Ralph McGill, among others—sought to eradicate racial lynchings, widespread economic and cultural poverty, inadequate public services and a host of other ills that plagued millions of southerners, black and white. They strove, however, to accomplish these goals while keeping segregation intact. Carter in 1938 exemplified the pre-war mainstream consensus of southern liberals when he stated, "we happen to believe in racial separation, which does not mean racial persecution."³⁹²

³⁹¹Letter to The Honorable Steve Early from Mark Ethridge, August 20, 1941; Letter, "To Heads of all Departments and Independent Establishments," from President Franklin D. Roosevelt, September 3, 1941. Both documents are contained in Official File 93; Colored Matters (Negroes), Aug-Dec. 1941; Roosevelt Library. Roosevelt's press secretaries, Early and Marvin McIntyre, were Southern-born and on numerous occasions, they objected to various legal initiatives that would have benefited blacks. In the mid-1930s, when Eleanor Roosevelt continued to urge passage of a federal anti-lynching law, Early wrote her that the NAACP's Walter White was "one of the worst and most continuous troublemakers." "If I were colored," Eleanor Roosevelt wrote back, "I think I should have about the same obsession that he [White] has." This information is contained in Doris Kearns Goodwin, *No Ordinary Time: Franklin and Eleanor Roosevelt: The Home Front in World War II* (New York: Simon & Schuster, 1994), 163-64.

³⁹²John T. Kneebone, "Liberal on the Levee: Hodding Carter, 1944-1954," *Journal of Mississippi History* 49 (1987): 153-62. Kneebone argues that such southern liberals as Carter, who attempted to speak to both advocates and opponents of civil rights, were either assailed for cowardice in the face of wrong, disloyalty to white southern mores, or both. Yet, a genuine condition of "separate but equal" was impossible, because racial separation and legal and social equality were antithetical.

When it came to racial matters, the Roosevelt Administration acted primarily to keep such concerns from disrupting the war effort. TVA, both by omission and commission, followed the administration's path. In so doing, the Authority likely avoided a political backlash by southern congressmen—especially those upon whom from 1942 to 1945, the Authority depended to stave off congressional and bureaucratic attacks. In March of 1944, Lilienthal described how Rep. John Rankin of Mississippi led “the most reactionary forces in the House on Southern issues (racial discrimination, poll tax, soldiers' vote, etc.).”³⁹³ Rankin's salvo came on top of McKellar's attempts to once again cripple the Authority through changing its charter, as described in an earlier chapter.³⁹⁴ Lilienthal knew first-hand about the clout wielded by such men as McKellar. “But he has the power, conferred by seniority and political arrangements, to do almost unlimited damage, simply on his own and in the teeth of the overwhelming sentiment to the contrary through his own state.”³⁹⁵ As a member of Congress, moreover, McKellar could publicly make unfounded accusations against people and not be sued for slander and libel.

McKellar took full advantage of this protection in his attacks against both the Authority in general and Lilienthal in particular. The senator's claims usually ranged from the ludicrous to the libelous: Lilienthal had become a staunch supporter of private power companies and he allegedly tried to use undue influence to gain a

Even if that was all that circumstances would allow, pursuing such a course created much frustration, especially for blacks who desired integration and political and social equality.

³⁹³Lilienthal, *Journals*, 630-31. Lilienthal added the italics.

³⁹⁴See Chapter Five, especially pages 12-16.

³⁹⁵Lilienthal, *Journals*, 630-31.

defense contract.³⁹⁶ As a result, many of TVA's supporters and McKellar's colleagues were convinced his attacks against the Authority were primarily motivated by his loathing of Lilienthal. A 1942 editorial in the *Chattanooga Times* observed that, "the time has come when the people of this State [Tennessee] owe it to themselves and to the TVA to question not only the wisdom of any suggestion Senator McKellar makes concerning the Tennessee Valley Authority, but also Mr. McKellar's motives."³⁹⁷

Calls for abolishing racial injustice, however, provoked far different responses from Southern congressmen. As the writer John Egerton argues, when civil rights started becoming an issue in the 1940s the Southern bloc in Congress clamped down on dissent within their ranks in the Democratic Party. Such legislators as McKellar, John Sparkman, "Cotton Ed" Smith, and Walter George would brook no challenge to racial segregation. Along with Sparkman and Rankin, Hill was one of the so-called "power roughnecks"—Southern congressmen who, as Nancy Grant notes, backed TVA in Congress and who were also "committed to the maintenance of racial segregation and unequal employment opportunities." Sparkman and Rankin frequently complained that the Authority was going too far with its "liberal" policies on race.³⁹⁸ In March of 1944, Rankin excoriated TVA for allowing a black woman to take a clerical examination (file clerk position), a practice that the Authority planned to continue. Lilienthal expressed both annoyance and concern about this decision:

³⁹⁶Memorandum to Miss Marguerite Owen, Washington Office, from Gordon R. Clapp, General Manager, January 27, 1943. Contained in Found in TVA, RG 142, GM/Administration files, Box 18; Washington Correspondence Files 032. House Documents, 77th Congress, page 6.

³⁹⁷"Sen. M'Kellar Again," *Chattanooga Times*, March 13, 1942. Found in TVA Corporate Library.

³⁹⁸Egerton, *Speak Now Against the Day*, 398-99; Grant, *TVA and Black Americans*, 32.

“Felt it [administering the exam] was right, but untimely as hell. And yet, when is it timely to inch ahead a step or two where emotions of this kind are at stake?” Only two blacks were involved, Lilienthal noted. “And yet, if he [Rankin] takes out along that line, it will dilute our support throughout the region, and may even be the straw that breaks us under the load of attacks we are under.”³⁹⁹

Lilienthal’s response about Rankin’s antics conveyed a keen understanding of the racial realities involved. This is demonstrated by the outcome of two events in the spring of 1945. In the first instance, McKellar once again failed in his efforts to control TVA through legislation. On the second occasion, McKellar and his congressional allies showed just how far they would go to block challenges to segregation. President Roosevelt had nominated Aubrey Williams, a longstanding Southern liberal on economic and racial matters, to head the Rural Electrification Administration. During his confirmation hearings, Williams heard such baseless charges as that he misappropriated public monies; that as a teenager, he had “denied the divinity of Christ;” and that he was “a member of either four or five of the Communist-front organizations.” Williams’s “crime” was that he had long advocated racial integration and equal employment, positions he maintained during his testimony. Despite some unexpected Southern support, McKellar and his supporters had the votes and by a vote of fifty-two to thirty-six, the Senate rejected Williams for

³⁹⁹Lilienthal, *Journals*, 630-31.

the REA post. Afterwards, observers believed that his uncompromising stand on racial matters effectively doomed his appointment.⁴⁰⁰

Unlike Williams, TVA continued to temporize on racial matters. At war's end, the Authority employed 12,685 workers and 1,285 of those were blacks. Of the latter total, 1,236 worked in trades and labor or custodial jobs.⁴⁰¹ Throughout the war, the Power Division employed blacks in the dirtiest jobs—boiler room helper, oiler, coal crusher operator, ash drag and pump operator, among others—and responded to directives for increased hiring by advocating more of the same.⁴⁰² TVA was unwilling to challenge Southern racial mores, a point made clear in a March 1949 meeting between the Divisions of Health and Safety and Personnel. To comply with President Harry Truman's Executive Order regarding fair employment, the Authority would have to hire more blacks and it would have to fully desegregate its work force. "It was everyone's feeling in that discussion that it will not do to reject a Negro who is qualified for a job on the grounds that it would be disturbing to the unit."⁴⁰³ Yet, it wasn't until 1962, for example, that TVA became a fully integrated agency when it desegregated its cafeteria in the Powell Building in Chattanooga.⁴⁰⁴

⁴⁰⁰Egerton, *Speak Now Against the Day*, 322-24. Senators Claude Pepper of Florida, Lister Hill, and Alben Barkley of Kentucky backed Williams, along with Representatives Allen Ellender of Louisiana and Clyde Hoey of North Carolina.

⁴⁰¹Memorandum to Gordon R. Clapp, General Manager, from George F. Gant, Director of Personnel, "Employment of Negroes," November 14, 1945. Found in TVA, RG 142, Division of Personnel files; Box 69; File 120 C 3; Employment of Negroes, 1945.

⁴⁰²Memorandum to G.O. Wessenauer, Acting Manager of Power, from C.L. Karr, Superintendent of Power Operations, July 31, 1942. Contained in TVA, RG 142, Power Manager's Files; Box 128; File 302.5: Negroes.

⁴⁰³Minutes of Staff Conference, Division of Health and Safety, March 22, 1949. Contained in TVA, RG 142, Division of Personnel files; Box 69; File 120 C 3; Employment of Negroes, 1946-1949.

⁴⁰⁴Grant, *TVA and Black Americans*, 155.

In an essay regarding New Left criticisms of the New Deal, the historian Jerold Auerbach makes a vital point that can be applied to TVA during World War II. Regarding race relations, Auerbach argues that this subject was “for many and legitimate reasons *not* a paramount New Deal issue.”⁴⁰⁵ As Nancy Grant correctly points out, the Authority, directly and potentially, promised to alter racial patterns and practices in the South, but failed to fulfill this pledge. But she hints at, even concedes, that TVA’s location in and relationship to the South meant that the Authority had to deal with the region’s racial mores and customs. “Any significant attempt to end racial discrimination by TVA would have created, in its opinion, new and more dangerous possibilities involving the loss of political and community support.”⁴⁰⁶ While deplorable by present-day standards, the Authority’s temporizing on race during the war helped enable TVA—by maintaining needed political support—to preserve its autonomy and its continued existence.

⁴⁰⁵Auerbach, “New Deal, Old Deal, or Raw Deal,” 21-22. Auerbach added the italics.

⁴⁰⁶Grant, *TVA and Black Americans*, 150.

Chapter Seven

Planning for the Postwar Period

In May 1944 the TVA Board met with its main labor organization, the 15-union Tennessee Valley Trades and Labor Council.⁴⁰⁷ The main topic of this conference concerned the problems of postwar industrial reconversion in the Tennessee Valley as relating to both agriculture and organized labor. For the Authority since its origin, stimulating economic growth throughout both the valley and the South had been a *raison d'être*. Toward that end, TVA's programs sought to maximize the conservation, rehabilitation, and judicious use of the region's natural resources to achieve what the sociologist William Cole describes as a "balanced development" between industry and agriculture and between urban and rural living. This approach was working. Among other favorable economic indices, the valley's per capita income in 1945 stood at 60 percent of the national average, in contrast to 40 percent between 1929 and 1933. Compared to 1933 figures, this rise translated to \$680 million more in personal incomes.⁴⁰⁸

Maintaining, even increasing, this surging economic tide was paramount to those attending the TVA-Labor Council meeting. Especially for Authority officials, timely action was needed because time had become crucial. The Allies had seized the offensive and war's end was in sight. In Europe the D-Day invasion was less than one month away, the Soviets had begun their westward push toward Berlin, and Italy

⁴⁰⁷ Agenda, Board-Council Meeting, TVA Board—Tennessee Valley Trades and Labor Council, May 16, 1944. Found in TVA, RG 142, GM/Administration files; Box 211; December 1943-1944, TN Valley Trades & Labor Council. The meeting took place at TVA's offices in Knoxville.

⁴⁰⁸ William E. Cole, "The Impact of TVA Upon the Southeast," *Social Forces* (1950): 435-40. The quote appears on page 436 and the figures appear on page 438.

had been knocked out of the war. In the Pacific, U.S. forces were advancing northward toward the Japanese home islands. The wartime demands of vastly increased production for the Allied effort spurred the dispersion of manufacturing concerns throughout the United States but especially in the South, where there was an adequate labor pool to support such rapid industrial deployment. For millions of Americans, happy economic days were here again. As the historian Richard Polenberg writes, “the war, in fact, pushed farm income to new heights, reduced tenancy as individuals left the land for factory jobs or enlisted in the armed services, strengthened trade unions, and literally ended unemployment.”⁴⁰⁹ American factories were producing at full capacity, so much so that the military had begun reducing some of its commitments for weapons, ordnance, and such materiel as ammonium nitrate.⁴¹⁰

Decisions were being made regarding postwar economic matters and TVA officials, especially Chairman David E. Lilienthal, were worried that the valley’s economic growth would slow down with the end of the war. TVA believed that the way to improve the valley’s economic performance was to attract the types of industries that were prevalent in the Northeast—those requiring the presence of unionized, high-wage labor. Congruent with TVA’s legal status as a regional agency and desirous of maintaining public support, Authority officials believed that this path to postwar expansion required a cooperative approach—especially between labor and agricultural interests. In preparing remarks for the May 1944 conference J.C.

⁴⁰⁹Polenberg, *War and Society*, 93.

⁴¹⁰Lilienthal, *Journals*, 619.

McAmis, TVA's Director of Agricultural Relations, put it this way: "I am assuming that both groups want security in a future that opens up a rising standard of living which corresponds in some degree to the talent, the enterprise, and the effort of the individual." McAmis then noted, "I am assuming that the individual increasingly must seek to win such a future for himself by associating his cause with that of others who feel the same way—in short, by organizing."⁴¹¹

The Authority's strategy of inclusion, however, collided with southern practices of exclusion. In particular, there were three realities: the political and economic structures of the South, the economic patterns of Southern wartime development, and the limits of TVA's statutory authority and public reputation. First, as demonstrated by the economic disparities among various socioeconomic groups, the beliefs and practices of an upper-class elite of white men held firm sway over the economic fortunes and political aspirations of millions of Southerners. Such groups as organized labor were not strong enough within the region to exert an effective countervailing force. Second, wartime necessities forced relocation of factories to the South. Yet, most of the industries that featured well-paying jobs—aircraft and ship construction, most notably—were located in Texas and in the Gulf states.⁴¹² Most of the valley's factories were in industries that required far more cheap electricity—aluminum smelting and refining, for example—than well-paid labor. Finally, the Authority faced a dilemma that would also bedevil postwar advocates of the valley authority approach. To use an idea from the economist Craufurd Goodwin: When it

⁴¹¹Suggested notes for discussion by J.C. McAmis, Director of Agricultural Relations, May 16, 1944. Found in TVA, RG 142, GM/Administration files; Box 211; December 1943-1944, TN Valley Trades & Labor Council.

⁴¹²Tindall, *Emergence of the New South*, 697.

came to fostering economic development, should TVA primarily plan, coordinate, and direct, or should it largely “conduct operations?”⁴¹³ Throughout the war years, especially during the period of U.S. belligerency, TVA officials pursued both approaches.

Lilienthal frequently lobbied key officials of the Roosevelt Administration, private industries, and the various federal wartime agencies to locate in the valley what the historian Bruce Schulman calls “high-order manufacturing.”⁴¹⁴ The Authority also weighed in on issues that affected the entire South, such as rectifying inequities in interstate freight rates, by taking an active role in this debate.⁴¹⁵ TVA also sought to improve the valley’s economic performance by facilitating the maximum use of manpower and natural resources that the region possessed. Toward this end, both externally and internally, Authority officials sought to avoid influencing or even shaping the debate by resorting to either/or types of arguments such as labor versus agriculture. Fostering cooperation would be difficult enough without reinforcing past practices.

Longstanding grievances and practices and wartime realities, however, overrode the Authority’s compelling arguments for a collective approach. Organized labor in the South, for example, had difficulty with farm cooperatives regarding such issues as recognition and work environment and wages, while agricultural interests had problems with dealing with labor unions in cities, claiming that, as McAmis put

⁴¹³Craufurd D. Goodwin, “The Valley Authority Idea—The Fading of a National Vision,” in Hargrove and Conkin, *TVA: Fifty Years*, 263-96. The comparison and quote is on page 285.

⁴¹⁴Bruce Schulman, *From Cotton Belt to Sunbelt: Federal Policy, Economic Development, and the Transformation of the South, 1938-1980* (New York: Oxford University Press, 1991), 92.

⁴¹⁵Tindall, *Emergence of the New South*, 601-602.

it, “they have been victimized by what they called the extortionist fringe of the labor unions.”⁴¹⁶ Wartime demands, as the historian Morton Sosna argues, prompted the federal government to deal with the region’s economic problems through instituting “a regional affirmative action program—to prop up the South through federal largesse.”⁴¹⁷ While federal monies were desirable, challenges to both segregation and control by white elites were undesirable and likely would be squashed. With the threat posed by such influential congressmen as Senator McKellar, the Authority could not risk overreaching in its efforts to bring about change.

When in 1938 he described the South as “the Nation’s No. 1 economic problem,”⁴¹⁸ Roosevelt knew firsthand the economic maladies that beset the region. He had increased his involvement with the South beginning in 1924 when he traveled to Warm Springs, located in west Georgia, to seek treatment for polio he contracted in August 1921. The springs helped Roosevelt’s paralyzed legs as no treatment previously had. His friendly manner, moreover, endeared him to the people of the region and he maintained that connection until he died at his Warm Springs residence on April 12, 1945. Through his work and during his years in Warm Springs, Roosevelt learned about such longstanding regional problems as poor soil, substandard schools, and widespread poverty. As the historian Frank Friedel argues, “again and again as President, Roosevelt cited his Warm Springs experiences as

⁴¹⁶Undated, “Suggested Notes As Basis Of Mr. McAmis’ Discussion At The Joint Meeting With The Executive Board Of The Tennessee Valley Trades And Labor Council May 16,” page 5. Found in TVA, RG 142, GM/Administration files, Box 211; December 1943-1944, TN Valley Trades & Labor Council.

⁴¹⁷Morton Sosna, “More Important than the Civil War? The Impact of World War II on the South,” *Perspectives on the American South* (Vol. 4, 1987): 149.

⁴¹⁸Tindall, *Emergence of the New South*, 599.

motivations for his actions on various matters, both large and small.” In supporting the formation of TVA, for example, Roosevelt cited his high electric bills at his Warm Springs home. The horrible soil quality was not lost on Henry A. Wallace, Secretary of Agriculture and later Vice President. Remembering a visit to Warm Springs in the fall of 1932, Wallace was “utterly amazed and appalled at the red gashed hillsides, at the unkempt cabins, some of them without windows or doors. It was a situation, it seemed to me with an Iowa farm background, that was almost unbelievable.”⁴¹⁹

As Schulman notes, the broad economic picture of the South between the end of Reconstruction and the onset of the Great Depression was dismal: a region featuring labor-intensive, low-wage employment both in agriculture and in industry; control by conservative Democrats through disfranchisement of African-Americans and many poor whites; and sub-standard health and educational facilities. Both before and after TVA’s formation, Lilienthal also realized the generally deplorable state of the South and of the Tennessee Valley. In some valley counties, Lilienthal noted, “the average cash income for a farm *family* was less than \$150 a year. . . . Entire rural counties, the towns included, were without a single telephone, a mile of farm electric line, a public library, a newspaper, a hospital, a single public health office.”⁴²⁰ In addition, annual floods from the Tennessee River and its tributaries

⁴¹⁹Frank Friedel, *F.D.R. and the South* (Baton Rouge: Louisiana State University Press, 1965), 2-18 passim.

⁴²⁰Lilienthal, *TVA—Democracy*, 78. Lilienthal added the italics. For an example of how bad things could be, see Cooperative Extension Work in Agriculture and Home Economics, Tennessee, “Report of Gussie Smith, Knoxville, Tenn., for [the] week ending Sat., June 28, 1941.” Box 99; TVA: 1941 misc.; Lilienthal Papers. On pages 2 and 3 the extension agent describes the dilapidated farm of Fred Betgood and his never-married sister, who lived in Rhea County, Tennessee: “A boxwood hedge

inundated farms and towns. Private companies usually exploited the region's natural resources until they were exhausted. The companies then moved on, leaving only blighted remains. At Ducktown in the mountains of eastern Tennessee, for example, the mining of copper ore destroyed the area's forests and streams while sulphur fumes poisoned the land, leaving it bare of vegetation. Rains then stripped away the remaining topsoil and gouged out the sterile ground. This left gullies that exceeded twenty feet deep in some cases.⁴²¹

During TVA's first five years, Schulman argues, the Authority pursued the so-called "phosphate philosophy" of improving the valley's economic standing. This strategy was based on "the idea that fertilizer production and small, rural-oriented industries could improve agricultural productivity and raise living standards while preserving the area's rural character."⁴²² The Authority was committed to decentralization. This approach "implied small-scale industries spread among rural areas. They would provide employment for surplus agricultural population while preserving the rural way of life." TVA thus objected to relocating northern industries to the Tennessee Valley. But small-scale industries, while acceptable to the region, would not provide industrial diversification—which effectively precluded industries that would bring to the Southeast "unions, high wages, and demand for labor." In relation to the Tennessee Valley, Schulman notes that, "Of 125 firms commencing operations between January 1933 and October 1938, more than half were textile,

separated the weeds in the yard from the weeds that were sneaking out to meet the *grave* that made the road I entered the yard expecting a snake to grab me any minute for the weeds were knee high. . . . The edge of the front porch [sic] had rotted at uneven intervals causing one to think as one stepped on it [that] 'legs, arms and heads' have been broken in safer places than this."

⁴²¹Schulman, *From Cotton Belt to Sunbelt*, 35; Lilienthal, *TVA--Democracy*, 53.

⁴²²Schulman, *From Cotton Belt to Sunbelt*, 92.

hosiery, and food processing plants,” traditionally low-wage industries. This decentralized approach, while it led to economic growth, did not lead to economic change. As Schulman points out, pay increases in the valley from 1933 to 1937 led only to a return of 1929 wage levels. In 1937, the “average annual income in the South stood at \$314, barely exceeding half of the total for all other regions.”⁴²³

By the early 1940s, despite shying away from a broader approach, TVA’s efforts were helping boost the valley’s economic fortunes. As Lilienthal noted in an October 1941 speech, having the Tennessee River serve as a navigable waterway meant that many raw materials—coal, sand, gravel, phosphate, and cement materials, among others—could be shipped cheaply by water. The river also could be used for the shipping of such “high-value products” as cotton goods and automobiles. He cited figures from Tennessee, where “the business effect of this recreational program within that State alone to be about \$25,000,000 annually.” The presence of low-cost electricity was paying off as well. Lilienthal used the example of local power systems served by TVA electricity: In fiscal year 1941 Nashville’s power system, for example, had a net income of more than \$1.1 million out of gross revenues totaling more than \$4.3 million. This represented a 9.26 percent return on investment. Knoxville’s figures, respectively, were \$454,000 and \$2.6 million.⁴²⁴

This growth accelerated during the war. During this time, partly to lift America out of the Depression and largely to facilitate wartime mobilization, the federal government prompted the dispersal and the construction of manufacturing

⁴²³Ibid., 35-38.

⁴²⁴Lilienthal, “The Development of a Region’s Resources,” speech given October 17, 1941, Lilienthal Papers, 23-24, 32, Chart D.

concerns throughout much of the nation. In this and in other related matters, the United States spent money like it never had before. As Sosna points out, "Between 1940 and 1944, the ten largest corporate recipients of government war contracts received about the same amount of money as the federal government spent on *everything* from 1932 to 1939, approximately \$52 billion."⁴²⁵ In the South, more than \$4.4 billion was spent on war plants; Texas alone received over \$1.4 billion.⁴²⁶

Between July of 1940 and August of 1945, TVA brought hundreds of millions of dollars into the valley, directly and indirectly. TVA's appropriations from Congress, the revenues received from power sales, the thousands of people the Authority employed, the monies paid to valley counties in lieu of taxes, and the purchases made by TVA constituted direct infusions of money. The location of industries based on power availability; the full use of the Tennessee River for barge traffic; the placing of government facilities throughout the region; the saving of monies by the prevention and the reduction of floodwaters; the improved performance of agriculture through the farm demonstration program; the encouragement of higher wages through a genuine commitment to labor unions and collective bargaining; the creation of recreational opportunities because of the new slack-water lakes; and various inventions either developed or improved by TVA made up indirect distribution of funds.⁴²⁷

For TVA, these and other achievements showed both the reality and promise of what the Authority could accomplish. In Lilienthal's conception, "democracy at

⁴²⁵Sosna, "More Important than the Civil War?" 149. Sosna added the italics.

⁴²⁶Tindall, *Emergence of the New South*, 699-700.

⁴²⁷Materials taken from TVA's annual reports, fiscal years 1940 through 1946.

the grass roots” encapsulated the TVA goal of solving long-standing problems through a cooperative, coordinated approach that was facilitated, to varying degrees, by Authority employees and officials carrying out TVA initiatives. What Lilienthal emphasized in his 1944 book was both democratic—the importance of individuals—and “republican”—whereby citizens elect those officials who then are given the responsibility and reasonable authority to transact the public’s business. Beyond their exercise of the franchise, people must have the opportunity to participate in matters that affect them. In speaking about resource development in the valley and elsewhere, Lilienthal made this clear: “People are the most important fact in resource development. Not only is the welfare and happiness of individuals its true purpose, but they are the means by which that development is accomplished.”⁴²⁸

Lilienthal illustrated this point when he discussed the farm demonstration program in an October 1941 speech. Prior to TVA’s origin, he noted, scientists and technical experts knew how to check erosion and revitalize exhausted soil. If the federal government owned all of the nation’s land, then the problem would just be a matter of how much the nation could spend on restoration. Yet, these methods “must be carried on chiefly upon land owned by private individuals. There a conflict arises because it is upon that very land that these farmers must at the same time earn a living for themselves and their families.” Lilienthal understood the reality. “The heart of the problem of soil conservation, therefore, is to stimulate and to strengthen the private business of farming, to raise the income of the individual farmer so he can afford to follow the restoration practices which the welfare of the region and the

⁴²⁸Lilienthal, *TVA—Democracy*, xi, 75. Lilienthal added the italics.

Nation demands.”⁴²⁹ The farmer’s self-interest and the public welfare had to be made compatible through the link of soil restoration. This approach of finding a viable middle ground, as the political scientist Heinz Eulau noted, is an example of maturity, the “recognition of the legitimate interests of others.”⁴³⁰

Another example of the cooperative approach involved the South’s longstanding fight to reform interstate freight rates, what the historian George Tindall describes as “the sectional crusade of its day.” Before and during the war, TVA officials pushed Southern legislators and governors to lobby the Interstate Commerce Commission and Congress for an end to the practice of discriminatory freight rates—whereby the South exported raw materials and imported finished products, the former more cheaply than the latter. From the Civil War onwards, as the United States accelerated its industrial development and with it, a nationwide market-based economy, Southern businessmen and politicians had long claimed that the South was, in effect, an economic colony of the North—sending a few staple products out of the region and bringing in costlier, yet necessary, manufactured goods. In a report submitted to Congress in May 1937, J. Haden Alldredge, TVA’s chief transportation economist, provided evidentiary support for a complaint filed with the Interstate Commerce Commission: the so-called “Southern Governors’ Case.” In his February 1944 speech, Lilienthal tied the issue of reconversion to that of freight-rate reform.⁴³¹ The issue, as Tindall points out, was far more complicated than the South-as-victim

⁴²⁹“The Development of a Region’s Resources,” speech given by David E. Lilienthal before the Southwest Valleys Association, October 17, 1941. Box 99: Re Speech 10/17, Little Rock; Lilienthal Papers.

⁴³⁰Eulau, “Neither Ideology nor Utopia,” 537.

⁴³¹Lilienthal, “What Will Happen to the War Plants in the Tennessee Valley Region?” Speech given February 29, 1944, Lilienthal Papers.

stance taken by TVA and other groups, but the attention given to the issue eventually prompted the ICC to establish uniform class rates.⁴³²

Throughout the United States, however, the desire for far-reaching change flowed against the tide of quickly ending the war. The historian John Blum argues that for American leaders, the goal was to win the war and get the soldiers home as quickly as possible.⁴³³ The war wasn't being fought to reshape American society, which many of the "cherubs"—Henry Stimson's derisive phrase for such people as Eleanor Roosevelt and Henry Wallace—thought should occur. For President Roosevelt, lack of political and public support meant that liberal concerns had to wait for the postwar period. To Blum, most Americans preferred what was going on, namely that "the confirmation of size during the war occurred simultaneously with the abundance and the satisfactions, or at least the seductions, of affluence."

Therefore, the largest universities and the biggest corporations received most of the available federal dollars. This meant that the experiences of both higher education and industry confirmed this reality, namely, "the manner in which wartime needs reinforced institutional patterns of prewar society, and in so doing stamped postwar conditions." Robert K. Woodruff and Coca-Cola, Philip K. Wrigley and chewing gum, Andrew Jackson Higgins and motorboats: these were among the business and corporate enterprises that made big money during the war and restored the self-esteem that had been tarnished by the Great Depression. Woodruff and

⁴³²Tindall, *Emergence of the New South*, 599-604. In May 1945, the ICC ordered a uniform rate classification east of the Rocky Mountains, a first step toward an eventual uniform system of rates that the commission imposed in the early 1950s.

⁴³³The material in this and the following paragraph is taken from Blum, *V Was For Victory*, 107-16, 144-46.

Wrigley, for example, were able to convince consumers and the federal government that their products were essential wartime commodities and thus eligible for their share of scarce resources. With this state of affairs, a man such as Robert Reynolds, president of Reynolds Aluminum, could testify before Congress about how he wanted to do his part to support the war effort—knowing that he received favorable loans through the Reconstruction Finance Corporation and that the government virtually guaranteed his company's market for aluminum. "The managers of war did not use the war to convert the governed, or as a laboratory of democracy, or as a crusade for peace," Blum argues. "The war used them. They accepted the necessities that then prevailed."

Bureaucratic fighting among federal agencies was one of these necessities. Such federal departments as Interior and Agriculture perceived TVA as a threat because their functions and responsibilities at times overlapped with what the Authority was doing. They wanted cooperation, if any, to be on their terms. To take one example: The Agriculture Department in 1941 established quotas as part of a program to boost wartime food production. The Department's objective for Tennessee was to increase livestock and livestock products through increased yields of feed corn. Toward that end, the Department authorized an increase in clean tilling of suitable land and in so doing, bypassed the Correlating Committee comprised of the Authority, the USDA, and the land-grant colleges of the valley states. The Agriculture Department's directive clashed with TVA's conservation policies, which called for fewer row crops and heavier use of phosphate fertilizers to stimulate the growth of clover and other such cover crops. Arguing that expansion of pasturage

and meadows would provide the necessary feed and supplements, Authority officials objected but to no avail. As the sociologist Philip Selznick put it, "Presumably, the Department felt that its responsibilities under the defense program could best be carried out through organizations which it, independently of relations to TVA, had established on the state and local level."⁴³⁴

These and other wartime realities would constrict what TVA wanted to accomplish in postwar planning. Lilienthal wanted the Authority to be in the forefront in helping the valley and, by extension, the Southeast plan for conversion from wartime to peacetime. Speaking in February 1944 about this process, Lilienthal argued that two factors were crucial. First, without sacrificing wartime security, necessary facts about the government-built war plants had to be made available as early as possible so that intelligent decisions could be made regarding technical and commercial obstacles to conversion. Such information would include the "types and sizes of buildings and shops and the kinds of equipment in the plants, the basic processes to which the machinery and layouts are put, the rail and other transportation facilities tied into the plants." Second, communities should be involved in reconversion because such a process was not just an industrial problem but a community problem as well.⁴³⁵

With such information and cooperation, Lilienthal and other Authority officials argued, swift reconversion could occur. Lilienthal used as an illustration TVA's ammonium nitrate plant, which the Authority built in 1942 to produce nitrates

⁴³⁴Selznick, *TVA and the Grass Roots*, 76-77.

⁴³⁵David E. Lilienthal, "What Will Happen to the War Plants in the Tennessee Valley Region?" February 29, 1944, pages 2-4, 6. Contained in Box 106; Re Speech: Chattanooga Kiwanis, 2/29/44; Lilienthal Papers.

for high explosives. The plant was shut down in late 1943 when the War Department told TVA that its output was no longer needed for military purposes. Less than three weeks later, TVA was producing at this facility a type of nitrogen fertilizer needed for wartime food production. The needed farm tests were completed and a private cooperative association was formed to market and distribute the fertilizer in five southeastern states. He emphasized that the necessary data, along with technical and commercial studies, had previously been gathered and was readily accessible to TVA administrators and to the various participants. As a result, the Authority could quickly act to keep the plant operating.⁴³⁶

TVA officials believed that increased manufacturing, without depleting the natural resources necessary to renew the valley's agriculture, was the key to postwar prosperity for the area. TVA saw the problem as the full development of the region's resources, which included renewable raw materials, manufacturing plant capacity, available capital and markets, skilled labor, necessary engineering and scientific knowledge, and the financial and leadership resources of the region's businessmen. These shortcomings were most acute in regards to the postwar disposition of war plants in the Southeast. Speaking at the May 1944 TVA-Labor Council conference, John P. Ferris, director of TVA's Commerce Department, stated that, "more than \$15 billion have[sic] already been spent by the government for new war industrial facilities." These figures included approximately twenty-five projects sponsored by the Defense Plant Corporation and some twenty plants initiated by the Army and the Navy. Most of these plants were what Ferris called "war babies," those with a heavy

⁴³⁶Ibid., 9-12.

concentration in explosives, munitions, and shipbuilding. This was in contrast to the South's small share of such industries as metalworking.⁴³⁷

Consolidated-Vultee made B-24 Liberators in Dallas-Fort Worth and Bell Aircraft built B-29 Superfortresses at its facility in Marietta, Georgia.⁴³⁸ The Tennessee Valley, through TVA's efforts, had the electric power capacity to support these and comparable types of plants; the Authority's power system in 1944 produced some 12 billion kilowatt-hours of electricity. Throughout the war, however, Lilienthal expressed his concern at how TVA power was primarily being used for electro-process industries that required low amounts of labor, such as ferro-alloys, and not for industries that required skilled workers, such as shipbuilding and aircraft manufacturing. In March of 1942, he lobbied the War Production Board to relocate a proposed ferro-silica plant from Sheffield, Alabama, to West Virginia. At that time, the Southeast had the largest remaining supply of available labor for factory expansion, and TVA officials pointed out that it would make more sense to provide its hydroelectric power for industries—war plants requiring far more skilled workers—that would effectively absorb the region's labor surplus. Thus, when Lilienthal heard about the concerns of Lockheed management regarding their labor problems at Vultee Aircraft in Nashville, Tennessee, Lilienthal flew out to Los Angeles to meet with top Lockheed management to challenge their belief that

⁴³⁷John P. Ferris, "Some Joint Problems of Labor and the TVA Relating to Industry," speech delivered May 16, 1944, page 2. Found in TVA, RG 142, GM/Administration files, Box 211; December 1943-1944, TN Valley Trades & Labor Council.

⁴³⁸Tindall, *Emergence of the New South*, 697.

“Southern labor cannot be quickly trained to do most of the operations involved in aircraft manufacture,” and to keep future possibilities open.⁴³⁹

The Authority also sought to ensure that workers called into military service would have jobs when they returned from the war. Two days after the attack on Pearl Harbor TVA’s personnel office sent out a memorandum regarding the re-employment of employees, those considered permanent, called to military training or service. The memorandum affirmed that those affected employees would be put back into their former positions “or to a position of like status.” Those hired to replace departed employees were given contingent appointments, while Authority employees transferred or promoted to fill vacant positions would have their status readjusted when the former employee returned from the military. Temporary employees included those workers hired as a result of work being done by the Authority for national defense—dam projects, the manufacture of ammonia and ammonium nitrate, calcium carbide, protection of key TVA properties for wartime security, and map-making for the military. As the war progressed, however, questions and issues regarding employee morale were raised on whether veterans would replace those employees who had been granted deferment at the behest of TVA.⁴⁴⁰

⁴³⁹Lilienthal, *Journals*, 459-62. Although he gave no further details regarding the outcome of this meeting, Vultee’s Nashville plant continued to operate.

⁴⁴⁰Memo to A.H. Sullivan, General Office Engineer, Chattanooga, from George F. Gant, Director of Personnel, Knoxville, August 20, 1942; TVA policy on re-employment rights, September 1, 1949; Memo to W.S. Milliken, Head Personnel Officer, from F.H. Jackson, Office of Manager of Power, April 3, 1944. Found in TVA, RG 142, Power Manager’s Files, Box 211; File 302.5, Military Duty—Procedure for Reinstatement of Employees in accordance with Re-employment Rights Policy.

TVA maintained good relationships with its workers and with organized labor. But the Authority's practices were the exception that proved the rule. Most of the South's political and economic elites despised unions and labored to prevent them from gaining a strong foothold in the region. Such a shift would effectively neutralize the region's longstanding low-wage, anti-union practices. The historian Numan Bartley describes the pro-business perspective of one industrial promoter: "Hell, what we've been selling is peace and order," the promoter said, "telling 'em that what we've got down here is stability—friendly politicians who are not going to gut a business with taxes, and workers who are grateful for a job and are not going to be stirring up trouble."⁴⁴¹ One way these elites thwarted challenges to the status quo was to equate opposition to Southern mores with disloyalty to the United States. In targeting the Farm Security Administration for elimination, for example, southern congressmen throughout the war attacked the patriotism of various FSA administrators. How, asked the writer John Dos Passos, could it be that attempting to increase the size of family-owned farms was a Communist plot? An Alabama dairy farmer replied, "Well, around here communism's anything we don't like. Isn't it that way everywhere else?"⁴⁴² The FSA was eliminated in 1946.

Most of the region's businessmen and politicians saw red over federal actions to alleviate Southern poverty. A big push in this area came in 1938 with congressional passage of the Fair Labor Standards Act. This legislation had both economic and social ramifications—boosting the incomes of southern workers,

⁴⁴¹Numan V. Bartley, *The New South, 1945-1980: The Story of the South's Modernization* (Baton Rouge: Louisiana State University Press, 1995), 21.

⁴⁴²Tindall, *Emergence of the New South*, 709.

especially white males, and forcing employers to end their reliance on lower-paid female and child labor—for the South. In arguing for this measure, the Roosevelt Administration linked higher pay to economic reform. As Roosevelt stated in 1938, “Cheap wages mean low buying power,” and “low buying power means low standards of living.” The law established nationwide minimum wage levels and a standard workweek—25 cents per hour and 44 hours per week the first year, changing in October of 1939 to 30 cents and 42 hours, respectively. Industry Committees formed by the Department of Labor, the agency responsible for implementing the law, approved wage increases without considering geographic differentials—including such industries as textiles, tobacco, hosiery, and lumber. Fortunately for many Southerners, wartime mobilization had the salubrious effect of boosting both employment and wages. As Schulman notes, “The war expanded manufacturing employment in the South by fully 50 percent. Average annual wages rose 40 percent between 1939 and 1942.”⁴⁴³

During the war, Schulman argues, labor’s gains in the South largely came as a result of federal intervention. To avoid the labor-management disputes that would hinder production, the National War Labor Board ordered various southern industries to abide by the applicable statutes and directives regarding wage rates, working conditions, and union organizing. Board members, especially those sympathetic to the goals behind the FLSA, had the goal of raising the standard of living for millions

⁴⁴³Schulman, *From Cotton Belt to Sunbelt*, 63-68. For such industries as cotton textiles, where pay rates were low throughout the U.S., or such businesses as pecan shelling, the legislation generally encouraged more mechanization and fewer workers. Many southern sawmill operators, meanwhile, sought to avoid the law’s requirements by only engaging in intrastate commerce. If the war had not occurred, as Schulman points out, eliminating the sweatshop without restructuring the region’s economy would have led to widespread unemployment.

of Southerners. As longtime southern liberal Frank P. Graham put it, “A standard of living is a matter of human decency and not a matter of local or regional capacity to reach that standard.” Representatives of southern industries, meanwhile, formed lobbying groups and various advisory councils to aid companies protesting the Board’s decisions, especially those rulings that banned lower wages based on race. In February 1945, the Atlanta office of the NWLB noted that thirty-six employers were disregarding Board rulings. Five southern states enacted anti-labor legislation that would lead to later “right-to-work” laws. Labor unions in the South, seeing the intensity of this opposition and knowing that the war would not last forever, emphasized negotiation rather than confrontation when it came to resolving disputes with businesses. A representative of the American Federation of Labor, George Googe, clearly made the point: “Some day the war will be over. Your Board will pass out of the picture and we will still be here. We want to show employers on every possible occasion that labor can make agreements with them and does actually make them.”⁴⁴⁴

Although it gave varied assistance to the war effort, TVA’s main contribution came in providing electricity. In the process of developing the capacity needed to produce what Lilienthal referred to as “Twelve Billion Genii,”⁴⁴⁵ a schism developed within the Authority that kept it from fully transcending the “phosphate philosophy” of economic development. In April 1939, Lilienthal emphasized his support for the process that President Roosevelt started in the first part of his second term: for the

⁴⁴⁴Ibid., 72-81.

⁴⁴⁵Lilienthal, *TVA—Democracy*, 17.

nation to improve economically, the South had to rise up from chronic poverty through restructuring the region's economy. Lilienthal expressed his desire that TVA "could become the medium for working out the long job of economic rehabilitation in the South."⁴⁴⁶

These remarks reflected a departure from the Authority's earlier practices. From its inception, as TVA fought for its existence, Lilienthal and fellow director Harcourt A. Morgan favored a "strict construction" of the TVA Act. As the historians William Bruce Wheeler and Michael McDonald point out, taking this direction put the Authority in the role of a "provider of cheap electric power and fertilizer and as a government agency which would work in cooperation with the region's farmers and extension service to assist agriculture, in particular through test demonstration farm units."⁴⁴⁷ Lilienthal and H.A. Morgan joined forces to block Arthur E. Morgan's "broad constructionist" approach—bringing about widespread socioeconomic change in the Tennessee Valley through comprehensive regional development. Taking this path would, according to Lilienthal and H.A. Morgan, have the Authority overstep its congressional mandate and thus further expose itself to outside attacks. A.E. Morgan's removal as TVA Chairman in March 1938 signified the triumph of this narrowly construed purpose.

Lilienthal's dominance within TVA, as Wheeler and McDonald argue, "effectively snuffed out plans within TVA for a larger mission." Such control also manifested itself in the relationships between the "power people" and the "water

⁴⁴⁶Lilienthal, *Journals*, 104.

⁴⁴⁷The information in this and the following paragraph is taken from Wheeler and McDonald, *TVA and the Tellico Dam*, 6-10.

people,” otherwise known as “nonpower resource development people.” For those in the former category, producing cheap electricity was TVA’s main task and their privileged standing meant that the divisions within the Office of Power received the largest share of the Authority’s budget. Power people usually considered other activities—among those, regional planning, economic development, and maintaining good relationships between the Authority and various political bodies—as secondary at best and annoyances at worst. For the latter group, TVA could be—had to be—more than just a power company. A prosperous Tennessee Valley could be built upon the infrastructure of navigation, flood control, and low-cost electricity. Realizing this vision meant that the Authority had multiple responsibilities in such areas as industrial development, reforestation, and scientific and product research. At the behest of General Manager Gordon Clapp, the Department of Regional Studies in 1942 began a study on the postwar plans for the Authority. Finished by late 1945, the extensive report called for TVA to expand its scope. “Further industrial development of the Tennessee Valley Region is necessary to accomplish the best use of its human and physical resources.” But the power people, notably Gabriel O. Wessenauer, the eventual Chief of Power, looked toward increasing TVA’s power capacity primarily through building more coal-fired steam plants. Dams already occupied the best places on the Tennessee River watershed. Wartime realities and Lilienthal’s looming presence only postponed this intra-agency confrontation, which erupted after war’s end.

The Roosevelt Administration, starting in the late 1930s and continuing throughout the war, gave increasing attention and action to alleviating and resolving

the South's longstanding economic miseries. Mostly through congressional and administrative mandates and directives, the federal government placed an increasing emphasis on boosting the region's economy—primarily by eliminating regional wage differentials, and increasing both jobs and workers' pay through the means of high-order manufacturing concerns that employed unionized labor. TVA wanted to increase its role, begun in its early years, in facilitating this shift. As the war entered its last years, 1944 to 1945, such Authority officials as Lilienthal increased their efforts to shape and direct the postwar direction of the southern economy. Although TVA could help organize the various participants, it could not and it would not be allowed to lead the parade.

Outside TVA, political, economic, and social realities curbed what the Authority realistically could accomplish. As Bartley argues, "the tortured southern political universe of truncated electorates, one-party politics, rotten borough legislatures, white-supremacy policies, and insulated conservative policy makers was too thoroughly entrenched to be overturned—or at least to be overturned violently—without outside assistance."⁴⁴⁸ Within the Authority, the ascendancy of the power division meant that at times, the narrower goals and outlooks of the so-called "power people" collided with the broader perspective urged by those employees concerned with regional planning and economic development. This created a divide within the Authority that would persist into the postwar era.

⁴⁴⁸Bartley, *The New South*, 31.

Chapter Eight

Conclusion

By the end of World War II, TVA had become a federal agency of significance to both its supporters and its detractors. The Authority, argues the political scientist William Havard, Jr., was on its way toward having a “history where it once simply had a vision.”⁴⁴⁹ With Japan’s cession of hostilities in August 1945 and its formal surrender that September, TVA was justly proud of its wartime accomplishments. By expanding and accelerating the scope and the pace of its inaugural mandate—navigation, flood control, and electric power—the Authority made widespread contributions to the Allied war effort: making phosphate fertilizers for growing food; generating electricity used to make an array of needed weapons, ordnance, and materiel, ranging from aluminum to enriched uranium, from ships’ boilers to gun-cotton; and providing services that included map-making, designing and building temporary housing, and knowledge and equipment used in malaria control. In addition, TVA engineers and construction crews designed, constructed, and upgraded multiple dams and a steam plant, and the Authority accomplished all of this and more without making any major changes in its administrative organization.⁴⁵⁰ When it came to socioeconomic matters, however, the Authority had a mixed record. Wartime realities spurred the growth of a movement for racial justice in a region based upon the cornerstones of white supremacy and segregation. TVA, consequently, continued to acquiesce to the South’s racial mores and customs—a choice that had both practical and moral ramifications. Massive federal spending, meanwhile, aided the South’s wartime and postwar economic rise. External

⁴⁴⁹William C. Havard, Jr., “Images of TVA: The Clash over Values,” in Hargrove and Conkin, *TVA: Fifty Years*, 297-315. The quote appears on 309.

⁴⁵⁰Lawrence L. Durisch, “The TVA Program and the War Effort,” *The Journal of Politics*, Vol. VIII (1946): 531-37.

factors and internal realities, however, constrained the Authority's attempts to shape both the nature and direction of this growth.

The dedication in September 1945 of Kentucky Dam signified the completion of the final main-river dam planned by TVA during the 1930s. By this time, as the historian Dewey Grantham notes, TVA's basic setup had emerged and much had been accomplished. In short, the Authority had physically transformed both the Tennessee River watershed and the Tennessee Valley. The multipurpose dams on the main river and its tributaries "had harnessed the river, largely solved the problem of the recurring, devastating floods in the Valley, and created a great inland waterway for commercial traffic." There was more. By 1950, "the Authority had become the largest producer of electricity in the United States, had developed an integrated power service area, and through its promotional rates and efficient management had demonstrated how electrical power could improve the lives of the people in the Valley." In addition, the Authority had developed and implemented an administrative structure that, among its achievements, "had established vital relationships with state and local governments, municipal power boards, rural cooperatives, agricultural colleges, farm organizations, and other federal agencies."⁴⁵¹

Yet, the political climate TVA faced at the end of World War II was markedly different from the one that led to its formation in 1933. The Great Depression had prompted searching questions about the nature and efficacy of laissez-faire capitalism. During Franklin Roosevelt's first term, as the historian Alan Brinkley points out, ending the Depression was the main challenge facing his Administration. However, "the desire for economic recovery

⁴⁵¹Dewey W. Grantham, "TVA and the Ambiguity of American Reform," in Hargrove and Conkin, *TVA: Fifty Years*, 316-35. The quotes appear on 319.

led New Dealers in many different directions.”⁴⁵² These involved, among various approaches, numerous “infrastructure” projects such as roads, bridges, dams, and buildings; social insurance and social welfare programs; passage of pro-labor legislation; development and promotion of public power; and facilitation and advancement of environmental conservation. TVA was the example of one these initiatives: regional planning. As Brinkley states, “The nation’s problems were serious enough, the political possibilities great enough, to permit the coexistence of many different prescriptions for government’s response.”

During the war, however, the astounding productive success of the American economy helped convince liberals to stifle their hostility toward modern capitalism and the corporate sector. By war’s end, the “New Deal liberalism” that had emerged during Roosevelt’s presidency accepted capitalism’s existence. Instead of restructuring the economy, the federal government’s main function “was to stabilize it and help it to grow.”⁴⁵³ By 1945, this also had become TVA’s main goal and it sought to achieve this aim while working within existing institutional and societal realities. A statement made in 1943 during TVA-union negotiations exemplified the Authority’s approach to various problems and situations. “The Authority prefers to face new situations and new problems not by adopting resolutions and statements of principle, but by trying to define and to analyze specific problems and to determine in what directions solutions can be found.”⁴⁵⁴ The Authority focused on stimulating economic growth in the Tennessee Valley and recoiled from the

⁴⁵²This paragraph heavily draws from Brinkley, *The End of Reform*, 6-7.

⁴⁵³*Ibid.*, 7.

⁴⁵⁴“Summary of the Conference Between the Board of Directors of the Tennessee Valley Authority and the Executive Board of the Tennessee Valley Trades and Labor Unions,” September 8, 1943. Contained in TVA, RG 142, GM/Administration files; Box 211; January 1943-December 1943, TN Valley Trades & Labor Council.

postwar version of liberalism that, as Brinkley describes, concerns itself with “increasing the rights and freedoms of individuals and social groups.”⁴⁵⁵

In the early postwar years, 1945 to 1963, TVA had to navigate turbulent currents. Shifting realities—a changed political climate, the demands of economic prosperity, and the emergence and acceleration of the Cold War—meant that the Authority’s numerous achievements would, to varying degrees, be offset by opposition to and by questioning of its policies and programs. As the political scientist Norman Wengert points out, “Prosperity had taken the place of depression; strong antigovernmental biases were more frequently expressed; and interest in broadly conceived regional development lagged.” In most expressions of popular opinion development was something associated with, say, war-torn Europe, and not a problem facing the United States. For numerous reasons, therefore, development for TVA in the postwar era primarily concentrated upon electric power and its related problems.⁴⁵⁶ Herbert Vogel, TVA Board Chairman from 1954 to 1962, stated the Authority’s mission in this way: “We are convinced that the TVA power system can make its greatest contribution to the development of industry and the alleviation of unemployment by maintaining its power rates at the lowest possible level.”⁴⁵⁷ This growing emphasis on providing low-cost electricity, however, would increasingly mar TVA’s public reputation with the public, especially those who supported the growing environmentalist movement that emerged in the 1950s amid soaring residential, industrial, and governmental demands for low-cost electricity as the nation went from World War II to the Cold War.

⁴⁵⁵Brinkley, *The End of Reform*, 10.

⁴⁵⁶Norman Wengert, “The Politics of Water Resource Development as Exemplified by TVA” in Moore, *Economic Impact of TVA*, 58-79. The quote appears on page 73.

⁴⁵⁷Richard A. Couto, “New Seeds at the Grass Roots: The Politics of the TVA Power Program since World War II,” in Hargrove and Conkin, *TVA: Fifty Years*, 230-60. The Vogel quote appears on page 242.

At the time of Japan's surrender the Authority's main political backers, President Franklin Roosevelt and Senator George Norris, were dead.⁴⁵⁸ Roosevelt's passing especially hurt TVA. Grantham argues that during Roosevelt's presidency, especially in the New Deal years, TVA "received invigorating assistance from Washington in the forms of appropriations, public works loans, political support, and friendly counsel." The Authority also bolstered Roosevelt and the New Deal with its "antimonopoly objectives and decentralization features," its place in New Deal liberalism, and its success as a New Deal undertaking.⁴⁵⁹ In contrast, Roosevelt's successor, President Harry S. Truman, supported the expansion of the Authority's power system but was ambivalent about pushing for more regional authorities based on the TVA model.⁴⁶⁰

Meanwhile, a resurgent Republican Party controlled Congress from 1947 to 1949 and from 1953 to 1955. With the help of Sen. Kenneth McKellar,⁴⁶¹ TVA's main political nemesis, the GOP kept making life harsh for the Authority. Lilienthal resigned as TVA Board Chairman in September 1946 to head the newly formed Atomic Energy Commission. Lilienthal and his hand-picked successor, Gordon Clapp, underwent hostile scrutiny by their respective committees before eventually receiving Senate confirmation. The House in 1947 blocked funding for the New Johnsonville steam plant and then in 1948, Congress approved a bill that changed TVA's repayment schedule on its bonded indebtedness. Private utility interests, their criticism of TVA muted during the war, resumed their attacks throughout this early postwar period; they feared how big the Authority's power system was and how much

⁴⁵⁸Norris died September 2, 1944, while Roosevelt died April 12, 1945.

⁴⁵⁹Grantham, "TVA and Ambiguity," in Hargrove and Conkin, *TVA: Fifty Years*, 322-23.

⁴⁶⁰The debate over more regional authorities is contained in Goodwin, "The Valley Authority Idea," in Hargrove and Conkin, *TVA: Fifty Years*, 263-96 passim.

⁴⁶¹In 1952 McKellar was defeated for re-election by Albert Gore, Sr., father of the future Senator and Vice President, Albert Gore, Jr.

bigger it might become, given the soaring demand for electricity as a result of economic growth and Cold War realities. As the historian Wilmon Droze notes, “From 1945 to 1947, the annual residential use of electrical energy on its (TVA’s) system increased by 60 percent, rising from 900 million to nearly 1.5 billion kilowatt-hours; average consumption per family increased 1,790 to 2,320 kilowatt-hours per year.”⁴⁶² The Authority met these increased demands by building coal-fired steam plants, seven during the period 1949 to 1959.⁴⁶³

By the late 1940s, moreover, the main rhetorical lines of argument for and against the Authority, as stated by Lilienthal and the literary critic Donald Davidson, were in place. In their writings, Havard argues, both Lilienthal and Davidson “cast TVA in a cosmic role.” Both men—the former positively, the latter negatively—“regard TVA’s meaning as one that can be grasped from the perspective of a coherent view of nature, man, and society.” Lilienthal proffered an Enlightenment-type vision: namely, nature could be controlled—for the benefit of and with the permission and active participation of human beings—by the application of science, technology, and organizational expertise. Davidson put forth a pre-Enlightenment viewpoint: namely, humans cannot and should not exercise total control over nature. Since humans are part of nature, they are “thus subject to the laws of nature and of nature’s God.” Since humans are finite, there are limits to what they can know. To believe that mankind can remake God’s creation “for the ostensible purpose of perfecting man and

⁴⁶²Wilmon Droze, “The TVA, 1945-80: The Power Company,” in Hargrove and Conkin, *TVA: Fifty Years*, 66-85. The quote appears on page 70.

⁴⁶³These plants were Johnsonville, Widows Creek, Kingston, Colbert, John Sevier, Gallatin, and Shawnee.

society”—to believe that through knowledge and its application, humans can transform themselves into God—is the worst type of *hubris*.⁴⁶⁴

What TVA had created in its first twelve years is what the social scientist Erwin Hargrove calls “an organizational culture consisting of two main elements, a sense of purpose and a method of work.” The Authority, as Hargrove notes, “was a hybrid that did not quite fit within the structure of American federalism” and as a result, TVA faced varying degrees of opposition, including outright attempts to kill it. Stimulated by this fight for its survival, such Authority officials as Lilienthal, H.A. Morgan, Gordon Clapp, and Marguerite Owen helped create an administrative climate and a rationale that enabled TVA to clearly articulate its goals, govern itself, and deal with outside people and institutions. Lilienthal, especially, conveyed a passion for the Authority in his speeches, journals, and other writings that, despite the suggestions of some critics, went beyond mere egotism on his part. In the postwar period, two men emerged from this institutional milieu to become vital figures in the Authority’s history: Clapp and Aubrey “Red” Wagner. Clapp joined TVA in July 1933 as assistant director of personnel. He became director of personnel in 1936, general manager in 1939, and Board Chairman in 1947, a position Clapp held until May 1954 when he left TVA after failing to gain reappointment.⁴⁶⁵ Wagner came to TVA in 1934 as a field engineer and both through his talents and the aid of influential figures, quickly rose through the Authority’s ranks. He became general manager in 1954 and Board Chairman in 1962, a post

⁴⁶⁴Havard, “Images of TVA,” in Hargrove and Conkin, *TVA: Fifty Years*, 302-303. Some of the chapter titles in Davidson’s 1948 book, *The Tennessee*, display his double-edged attitude toward both modernization and the Authority: Chapter XI, “The Uneasy Reign of King Kilowatt I,” and Chapter XII, “At Last! The Kingdom Really Comes!”

⁴⁶⁵Hargrove, *Prisoners of Myth*, 111-17.

he would hold until his retirement in 1978.⁴⁶⁶ Both men gave long and skillful service to the Authority but they also had their shortcomings. As one former TVA staffer put it, Clapp and Wagner were “ideal ‘civil servants’ who were not as good as Lilienthal at dealing with ‘big political problems,’ ” nor were they as skilled in their political dealings with Congress and TVA’s various constituencies in the Tennessee Valley.⁴⁶⁷

As personnel director, Clapp helped create the Authority’s management system. As a result, Hargrove argues, “the personnel office became responsible for TVA’s administrative rules and regulations which provided the skeleton for the management system.” From this experience, Hargrove notes, Clapp viewed the general manager’s role “as that of teacher of the canons of TVA organizational culture.” In that position, he guided people in the directions he wanted them to take, usually through asking hard questions and putting forth ideas that usually would return to him as recommendations made by the Authority staff. Clapp expected staff members to work out their differences before bringing proposals to the board and if that had not occurred, he then would direct them to resolve their disputes within board-mandated TVA policy guidelines. As both general manager and board chairman, Clapp brought together staff members and sought through discussion to reconcile diverse viewpoints.⁴⁶⁸

⁴⁶⁶Wheeler and McDonald, *TVA and the Tellico Dam*, 16-18. Wagner’s first key backer was C.T. Barker, head of the then-Navigation Branch of the General Engineering and Geology Division. Later supporters included Clapp and Marguerite Owen, long-time director of TVA’s Washington office and the Authority’s main lobbyist. In addition, other powerful figures such as Chief of Power Gabriel O. Wessenauer either backed Wagner, or did not attempt to halt his rise to the top.

⁴⁶⁷Hargrove, *Prisoners of Myth*, 119-20. The staffer was Harry Wiersemä, long-time engineer for TVA.

⁴⁶⁸Hargrove, *Prisoners of Myth*, 117-18.

Wagner took a different managerial approach. The historians William Bruce Wheeler and Michael McDonald argue that “Wagner liked to bypass the agency’s divisions by setting up special committees composed of people from numerous divisions and reporting directly to him.” This approach often led to committee members defending their own branches or divisions and this competition invariably brought about contention and conflict. Moreover, Wagner usually had decided what the committee’s recommendations should be and “showed little patience with reports that did not concur with his preconceived conclusions.” Wagner was the TVA official most responsible for starting the Authority down the controversial path that the Tellico Dam project eventually became. In February 1959, at a meeting of leading TVA officials, Wagner pushed his vision of the Authority’s “new mission,” building dams on the Tennessee River’s tributaries in the same way the Authority had done on the main river. The old Fort Loudon Extension, a World War II project that was curtailed by shortages of materials, was rechristened as Tellico. Over the next two decades the project embroiled TVA in the growing environmental movement and when it was finished, the Authority had lost much of its favorable public reputation.⁴⁶⁹

Long before the Tellico controversy, however, “Red” Wagner burnished his legend as one of the most important figures in TVA’s history. TVA in the 1950s would finally deal with a president that despised the Authority and desired to end its existence. Dwight D. Eisenhower made his loathing clear early in 1953 when he alluded to TVA in speaking about the threat of “creeping socialism.” Later that

⁴⁶⁹Wheeler and McDonald, *TVA and the Tellico Dam*, passim. The quote appears on page 21.

summer, according to a presidential aide, Eisenhower vainly wished that he could abolish the Authority and sell off its assets to private interests.⁴⁷⁰ However, the President demonstrated his antipathy in other ways. In 1954 Eisenhower refused to reappoint Clapp as Chairman, instead naming Herbert Vogel, a retired general from the Army Corps of Engineers and a friend of the President. Observers both within and outside the Authority interpreted Vogel's appointment as the opening shot in the Eisenhower Administration's drive toward first curtailing TVA's growth, and then eventually ending its existence. Buoyed by the changed political climate, private utilities increased their campaign to contain TVA within the Tennessee Valley. This can be seen in the mid-1950s with the Dixon-Yates affair. When the Authority, due to excessive demands on its power system, informed the Atomic Energy Commission that it had to curtail power sales to the AEC, the Eisenhower Administration pushed a plan that would have both TVA and private utilities provide electricity to the atomic agency's plant near Paducah, Kentucky. TVA produced while the private company floundered and this failure, combined with irregularities in the promotion of the project, led the Administration in July 1955 to cancel Dixon-Yates.⁴⁷¹

Growing congressional resistance to funding TVA programs through appropriations, especially its burgeoning power system; Eisenhower's active opposition; and the efforts of private power interests to hobble the Authority: these

⁴⁷⁰Owen, *The Tennessee Valley Authority*, 97, 99. Owen cited the statement regarding selling off TVA from Emmet John Hughes's 1963 book, *The Ordeal of Power, A Political Memoir of the Eisenhower Years*. According to Hughes, Eisenhower on July 31, 1953, spoke these words at a Cabinet meeting: "By God, if ever we could do it, before we leave here, I'd like to see us sell the whole thing, but I suppose we can't go that far."

⁴⁷¹The best one-volume treatment on the Dixon-Yates affair remains Aaron Wildavsky, *Dixon-Yates: A Study in Power Politics* (New Haven: Yale University Press, 1962).

realities spurred the Authority to gain the authority for self-financing of its power program. While serving as general manager, Wagner's administrative skill and personal honesty so influenced Vogel that he became a staunch supporter of the Authority. This conversion paid dividends in the summer of 1959. With legislation pending to amend the TVA Act and White House legal advisers pushing for a veto, Vogel gained a meeting with Eisenhower and sold the President on the compromise language that ensured the passage in August 1959 of the Revenue Bond Act. This legislation permitted the Authority to issue bonds to pay for needed expansion of its power system. Congress also established a repayment schedule for the appropriation investment in power facilities and delimited the boundaries of TVA's power system.⁴⁷²

In the 1950s TVA had become part of what the British journalist Godfrey Hodgson described as the "liberal consensus." As the 1960s dawned the United States, largely in response to World War II, the Cold War, and economic growth, had entered a period where this ideology held forth: "that American capitalism was revolutionary force for social change, that economic growth was supremely good because it obviated the need for redistribution and social conflict, that class had no place in American politics." By the mid-1970s, these and other assumptions had fallen into disgrace.⁴⁷³ TVA was not immune to these rapid and drastic changes. Instead, it came under increasing criticism for pursuing physical development—more

⁴⁷²Owen, *The Tennessee Valley Authority*, 115-18. The meeting between Vogel and President Eisenhower is described in Hargrove, "Board Chairmen," in Hargrove and Conkin, *TVA: Fifty Years*, 107-108.

⁴⁷³Godfrey Hodgson, *America In Our Time: From World War II to Nixon, What Happened and Why* (New York: Doubleday & Company, Inc., 1976), especially 67-98. The quote appears on page 89.

dams, low-cost electricity, greater industrial growth, among other goals—at the cost of environmental degradation. Between fiscal years 1949 and 1959 alone, TVA’s power sales rose more than fourfold while its coal purchases increased by nearly eighteen times,⁴⁷⁴ prompting environmental advocates to excoriate the Authority for contributing to air and water pollution while stimulating the use of strip-mining techniques in Appalachian mines, with their subsequent ground damage.

Yet, the critics of TVA as regarding its environmental record also overlook a reality of postwar development: namely, that states throughout the South, including those in the Tennessee Valley, actively sought industry and industrial growth. In conflicts between economic desires and environmental concerns, economics usually won out. When Georgia and North Carolina in the late 1960s, for example, enacted legislation to control air, water and land pollution, their laws were developed so as to not hinder economic growth and the attraction of industry. Even though southern states in the early 1970s began passing and implementing environmental laws it did not mean, as historian James Cobb argues, “that state and local leaders were ready to give environmental purity precedence over economic growth.”⁴⁷⁵ Much of the environmentalism movement in the post-1945 period, historian Hal Rothman argues, was based on this dichotomy. “As a nation we want convenience and abundance, but we want it without risk. Environmental protection was designed to mitigate that risk,

⁴⁷⁴Tennessee Valley Authority, “Dynamic Decade: TVA in the Nineteen-Fifties,” 3. Found in Tennessee Valley Authority Reports, 1933-1973; Box 4, Report 29; Special Collections, University of Tennessee, Knoxville. The respective figures are from 13,614,194,000 to 57,163,470,000 kilowatt-hours, and from 1,347,904 tons to 18,639,958 tons.

⁴⁷⁵Cobb, *Selling of the South*, 229-53. The quote appears on page 238.

to measure it and make it tolerable, to guarantee a minimum level of quality of life.”⁴⁷⁶

Without a doubt, TVA impacted both the Tennessee Valley and the nation. In its first twenty-five years, the Authority spent approximately \$2.1 billion in this region.⁴⁷⁷ Moreover, as the economist Ronald Wolf points out, TVA’s impact on the electrical utility field could be assessed in other ways. By 1961, the Authority had become the nation’s biggest single producer of electric power, generating nearly 10 percent of the electricity produced in the United States. During the late 1950s to the early 1960s, the Authority’s purchases of “manufactured products, raw materials and services” ranged from \$120 million to more than \$500 million. These amounts had further impact when during this period, TVA’s sharing of information with Congress and federal law enforcement agencies, especially the Department of Justice, led to the exposure and prosecution of electrical supply companies illegally engaged in price-fixing, bid-rigging, and market-sharing. To cite one example: In March 1961, the government sued five manufacturers for more than \$12 million in damages stemming from illegal bidding practices. One of the firms cited, General Electric, had transacted nearly \$69.6 million in questionable business, “of which TVA accounted for about \$57,600,000.”⁴⁷⁸

⁴⁷⁶Hal K. Rothman, *The Greening of a Nation? Environmentalism in the United States since 1945* (Fort Worth, Texas: Harcourt Brace College Publishers, 1998), 5.

⁴⁷⁷Wheeler and McDonald, “Communities of East Tennessee,” 35.

⁴⁷⁸Ronald H. Wolf, “Identical Pricing and TVA: Toward More Effective Competition,” in Moore, *Economic Impact of TVA*, 82-104. See especially, pages 91-94 and 99. From its beginnings in 1933, the Authority used formal advertising—the bid process—to buy its products. From time to time, TVA during this process had received identical bid prices for some products, including conductor cable and transformers. In May 1959, the Authority authorized the publicizing of identical bids received on various purchases and it was this type of information that helped the Justice Department in its prosecutions. On page 92, Wolf describes the impact that the government’s actions had in ameliorating abuses in the bidding process. “Between 1962 and 1964, reports of federal government agencies show a 21.6 per cent decline in the volume of purchases affected by identical bidding.”

TVA, as the economist Stefan Robock argues, benefited American taxpayers in such various ways as low-cost electricity. In 1963, for example, the United States purchased 25 billion kilowatt hours from the Authority. As Robock points out, “Assuming that total TVA and non-TVA purchases have been averaging about 30 billion kilowatt hours over the last decade,” a reduction of 1 mill per kilowatt hour translated into a savings of \$300 million. Moreover, “A saving of 2 mills per kilowatt hour, which is a reasonable estimate of the price reduction forced by TVA efficiency and competition, means that the taxpayer has saved a total of \$600 million over the decade in national defense expenditures.”⁴⁷⁹ From 1929 to 1960, meanwhile, TVA helped stimulate the growth of manufacturing in the Tennessee Valley. Employment in this period rose from 222,000 to 486,000, while manufacturing wages and salaries went from just over \$2 million to almost \$2 billion. From 1930 to 1960, moreover, the ratio of farm to factory labor changed from four-to-one (farm to factory) to nearly two-to-one (factory to farm). In addition, “manufacturing was providing almost three times the income from agriculture.” A large part of this increase came from “resources-oriented” industries—chemicals; man-made fibers and fertilizers; aluminum and ferro alloys; pulp, paper, and paperboard; electrical machinery; and food processing—that in the postwar era, enjoyed productivity gains through “heavy capital investment and automation” rather than greater employment.⁴⁸⁰

Far-reaching economic changes, however, somewhat mitigated these impressive contributions. As the economist Gilbert Banner argues, one consequence of TVA’s “grass-roots” approach was an outlook that could be described in this way: economic growth would

⁴⁷⁹Stefan H. Robock, “An Unfinished Task: A Socio-Economic Evaluation of the TVA Experiment,” in Moore, *Economic Impact of TVA*, 106-120. The savings on electricity purchases are contained on pages 107-108.

⁴⁸⁰Robock, “Unfinished Task” in Moore, *Economic Impact of TVA*, 113-15.

follow physical development. By controlling and developing the Tennessee River, and by producing low-cost phosphate fertilizer, industrial development and revitalization of agriculture would naturally occur. In the 1930s, however, what Authority officials did not and could not foresee was that structural economic change would render these assumptions inaccurate. The expansion of the interstate highway system following the war, for example, helped stimulate the development and growth of the long-haul trucking industry, thus making waterways less important to both industry and commerce. Technological improvements in agriculture, and their subsequent economic effects, further marginalized less productive or poorly organized agricultural lands. Thus, as Banner notes, “Industrialization did not automatically follow power production, and areas of unemployment did not automatically disappear as the country reached higher levels of economic activity.” In various measurements of economic activity, the Tennessee Valley still lagged behind the rest of the nation. “Navigation did not prove to be as important to industrial location as had been expected. Sections of agriculture were not just temporarily sick; they were chronically ill.”⁴⁸¹

In May 1963, President John F. Kennedy alluded to these and other contradictions as he spoke at Muscle Shoals, Alabama, in celebration of TVA’s thirtieth anniversary. Critics and skeptics, he noted, “predicted that TVA would destroy private and local initiative and thwart free enterprise. But private investment in job-creating industries along what was once a useless, dangerous river has already surpassed the total public investment required to control its waters.” Moreover, the multipurpose dams facilitated navigation, flood control,

⁴⁸¹Banner, “Toward More Realistic Assumptions,” in Moore, *Economic Impact of TVA*, 126-29.

and generation of electric power, and stimulated reforestation and growth of fish and wildlife. For these and other reasons, President Kennedy noted in referring to President Eisenhower's 1953 remarks, "the tremendous economic growth of this region, its private industry and its private income, make it clear to all that TVA is a fitting answer to socialism—and it certainly has not been creeping."⁴⁸²

⁴⁸²Tennessee Valley Authority, "Remarks of President John F. Kennedy, Celebration of 30th Anniversary of TVA, Muscle Shoals, Alabama, May 18, 1963." Found in Tennessee Valley Authority Reports, 1933-1973; Box 4, Report 63; Special Collections, University of Tennessee, Knoxville.

Bibliography

Primary Sources

Archival Materials:

Records of the Tennessee Valley Authority. National Archives/Southeast Region, Atlanta, Georgia.

Estes Kefauver papers. Special Collections, University of Tennessee, Knoxville, Tennessee.

David E. Lilienthal Papers. Seeley G. Mudd Manuscript Library, Princeton University.

Kenneth D. McKellar papers. Memphis Public Library, Memphis, Tennessee.

Harcourt A. Morgan papers. Special Collections, University of Tennessee, Knoxville, Tennessee.

Franklin Delano Roosevelt presidential papers. Franklin Delano Roosevelt Presidential Library, Hyde Park, New York.

Government Documents:

Bureau of Demobilization, Civilian Production Administration. *Industrial Mobilization for War: History of the War Production Board and Predecessor Agencies, 1940-1945, Program and Administration*. Vol 1. Washington, D.C.: U.S. Government Printing Office, 1947.

Tennessee Valley Authority. *The Douglas Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Douglas Project*. Technical Report No. 10. Washington, D.C.: United States Government Printing Office, 1949.

Tennessee Valley Authority. Annual Reports. 1936-1945.

U.S. Congress. Various House and Senate committee hearings. 75th-79th Congresses, 1937-1946.

Private Papers:

Lilienthal, David E. The Journals of David E. Lilienthal. Vol. 1, *The TVA Years, 1939-1945*. New York: Harper & Row, 1964.

Rosenman, Samuel I., ed. *The Public Papers and Addresses of Franklin D. Roosevelt*. 13 vols. New York: Random House, 1950.

Newspapers and Magazines:

Boston Globe

Nashville Tennessean

New York Daily News

New York Times

New York Times Magazine

Chattanooga Free-Press

Engineering News-Record

Knoxville Journal

Knoxville News-Sentinel

Memphis Commercial Appeal

The Nation

Progressive

Time magazine

Washington Post

Secondary Sources

Theses and Dissertations:

Field, Gregory Blaise. "David E. Lilienthal and the Modern American State." Ph.D. diss., University of Massachusetts, 1994.

Gannon, Bernard Anthony, III. "Monument to Power: The Political Struggle for Kentucky Dam." Ph.D. diss., Southern Illinois University at Carbondale, 1997.

Howard, Patricia Brake. "Knoxville's Rosies: The Impact of World War II on Women Production Workers of Knoxville, Tennessee." Ph.D. diss. University of Tennessee, Knoxville, 1988.

McFarland, Robert Ernest, Jr. "Of Time and the River: Economy, People, and Environment in the Tennessee Valley, 1500-1990." Ph.D. diss., University of Alabama, 1997.

- Purcell, Aaron Dean. "Building Dams, Burning Bridges: Conflicting Philosophies on the Tennessee Valley Authority Board, 1933-1939." M.A. thesis, University of Louisville, 1996.
- Rawson, George E. "The Process of Program Development: The Case of TVA's Power Program." Ph.D. diss., University of Tennessee, 1979.
- Rogers, Michael Dale. "Collective Bargaining in the Tennessee Valley Authority: The Trades and Labor Experience." (Ph.D. diss., University of Tennessee, 1973.
- Taylor, Stephen Wallace. "Building the Back of Beyond: Government Authority, Community Life and Economic Development in the Upper Little Tennessee Valley, 1880-1992." Ph.D. diss.. University of Tennessee, 1996.

Books:

- Badger, Anthony J. *The New Deal: The Depression Years. 1933-1940*. New York: Hill & Wang, 1988.
- Banner, Gilbert. "Toward More Realistic Assumptions in Regional Economic Development." In John H. Moore, ed., *The Economic Impact of TVA*, 121-43. Knoxville: University of Tennessee Press, 1967.
- Best, Gary D. *Pride. Prejudice, and Politics: Roosevelt Versus Recovery. 1933-1939*. New York: Praeger, 1991.
- Blum, John Morton. *V was for Victory: Politics and American Culture During World War II*. New York: Harcourt Brace Jovanovich, 1976.
- Brinkley, Alan. "The New Deal and Southern Politics." In *The New Deal and the South*, ed. James C. Cobb and Michael V. Namarato, 97-116. Jackson: University Press of Mississippi, 1984.
- _____. "The New Deal and the Idea of the State." In *The Rise and Fall of the New Deal Order*, ed. Steve Fraser and Gary Gerstle, 85-121. Princeton: Princeton University Press, 1989.
- _____. *The End of Reform: New Deal Liberalism in Recession and War*. New York: Alfred A. Knopf, 1995.
- _____. "Prosperity, Depression, and War, 1920-1945." In Eric Foner, ed. *The New American History*, revised and expanded edition, 133-58. Philadelphia: Temple University Press, 1997.

- Brown, Margaret Lynn. *The Wild East: A Biography of the Great Smoky Mountains*. Gainesville: University Press of Florida, 2000.
- Bullock, Alan. *Hitler and Stalin: Parallel Lives*. New York: Random House, Inc., 1993.
- Burns, James MacGregor. *Roosevelt: The Lion and the Fox*. New York: Harcourt, Brace & World, Inc., 1956. Reprint, New York: Smithmark Publishers, 1996.
- _____. *Roosevelt: The Soldier of Freedom*. New York: Harcourt Brace Jovanovich, 1970.
- Callahan, North. *TVA: Bridge Over Troubled Waters*. South Brunswick, N.J.: A.S. Barnes and Company, 1980,
- Carr, Charles C. *ALCOA: An American Enterprise*. New York: Rinehart and Co., 1952.
- Chandler, William U. *The Myth of TVA: Conservation and Development in the Tennessee Valley, 1933-1983*. Cambridge, Mass.: Ballinger Publishing Company, 1984.
- Clapp, Gordon R. *The TVA: An Approach to the Development of a Region*. Chicago: University of Chicago Press, 1955.
- Cobb, James C. *Industrialization and Southern Society, 1877-1984*. Chicago: Dorsey Press, 1984.
- _____. *The Selling of the South: The Southern Crusade for Industrial Development*. Urbana, Illinois: University of Illinois Press, 1993.
- _____ and Michael V. Namorato, eds. *The New Deal and the South*. Jackson: University Press of Mississippi, 1984.
- Colignon, Richard A. *Power Plays: Critical Events in the Institutionalization of the Tennessee Valley Authority*. Albany: State University of New York Press, 1997.
- Creese, Walter L. *TVA's Public Planning: The Vision, The Reality*. Knoxville: University of Tennessee Press, 1990.
- Davidson, Donald. *The Tennessee. Vol. II, The New River: Civil War to TVA*. New York: Rinehart & Company, Inc., 1948.
- Davis, Kenneth S. *FDR: Into the Storm, 1937-1940, A History*. New York: Random House, 1993.

-
- _____. *FDR: The War President, 1940-1943, A History*.
New York: Random House, 2000.
- Divine, Robert A. *Roosevelt and World War II*. Baltimore:
Johns Hopkins Press, 1969
- Droze, Wilmon H. *High Dams and Slack Waters: TVA Rebuilds a River*.
Baton Rouge: Louisiana State University Press, 1965.
- Egerton, John. *Speak Now Against the Day: The Generation Before
the Civil Rights Movement in the South*. Chapel Hill:
University of North Carolina Press, 1994.
- Fontenay, Charles L. *Estes Kefauver: A Biography*. Knoxville: University of
Tennessee Press, 1980.
- Fraser, Steve and Gary Gerstle, eds., *The Rise and Fall of the New Deal Order*
Princeton: Princeton University Press, 1989.
- Friedel, Frank B. *FDR and the South*. Baton Rouge: Louisiana State University
Press, 1965.
- _____. *Franklin D. Roosevelt*. Boston: Little, Brown, 1990.
- Funigello, Philip J. *Toward a National Power Policy: The New Deal and the
Electric Utility Industry, 1933-41*. Pittsburgh: University of
Pittsburgh Press, 1973.
- Gerstle, Gary. *American Crucible: Race and Nation in the Twentieth Century*
Princeton: Princeton University Press, 2001.
- Goodwin, Doris Kearns. *No Ordinary Time: Franklin and Eleanor Roosevelt:
The Home Front in World War II* (New York: Simon & Schuster, 1994.
- Grantham, Dewey W. *The South in Modern America: A Region at Odds*.
New York: Harper Collins Publishers, 1994.
- _____. "TVA and the Ambiguity of American Reform."
In *TVA: Fifty Years of Grass-Roots Bureaucracy*, ed. Erwin C. Hargrove and
Paul K. Conkin, 316-35. Urbana: University of Illinois Press, 1983.
- Grob, Gerald N. and George Athan Billias, eds. *Interpretations of American
History: Patterns and Perspectives*, 6th ed., vol. II, since 1877.
New York: The Free Press, 1992.
- Grant, Nancy L. *TVA and Black Americans: Planning for the Status Quo*.
Philadelphia: Temple University Press, 1990.

- Groves, Leslie R. *Now it can be Told: The Story of the Manhattan Project*. New York: Da Capo Press, 1962. Reprinted, 1975.
- Hargrove, Erwin C. and Paul K. Conkin, eds. *TVA: Fifty Years of Grass-Roots Bureaucracy*. Urbana: University of Illinois Press, 1983.
- Hargrove, Erwin C. *Prisoners of Myth: The Leadership of the Tennessee Valley Authority. 1933-1990*. Princeton: Princeton University Press, 1994.
- Hamby, Alonzo L. *Liberalism and its Challengers: From F.D.R. to Bush*. Second ed. New York: Oxford University Press, 1992.
- Hawley, Ellis W. *The New Deal and the Problem of Monopoly*. Princeton: Princeton University Press, 1966.
- _____, ed. *Herbert Hoover as Secretary of Commerce: Studies in New Era Thought and Practice*. Iowa City: University of Iowa Press, 1981
- Hewlett, Richard B. and Oscar E. Anderson, Jr. *The New World. 1939/1946*. University Park: Pennsylvania State University Press, 1962.
- Hobday, Victor. *Sparks at the Grass Roots: Municipal Distribution of TVA Electricity in Tennessee*. Knoxville: University of Tennessee Press, 1969.
- Hodge, Clarence L. *The Tennessee Valley Authority: A National Experiment in Regionalism*. New York: Russell & Russell, 1938. Reprint, New York: Russell & Russell, 1968.
- Hubbard, Preston J. *Origins of the TVA: The Muscle Shoals Controversy, 1920-1932*. New York: Norton, 1968.
- Ickes, Harold L. *The Secret Diary of Harold L. Ickes, 3 vols*. New York: Simon and Schuster, 1953-1954.
- Jeffries, John W. *Wartime America: The World War II Home Front*. Chicago: I.R. Dee, 1996.
- Johnson, Charles W. and Charles O. Jackson. *City Behind a Fence: Oak Ridge. Tennessee. 1942-1946*. Knoxville: University of Tennessee Press, 1981.
- Kennedy, David M. *Freedom from Fear: The American People in Depression and War. 1929-1945*. New York: Oxford University Press, 1999.
- King, Judson. *The Conservation Fight: From Theodore Roosevelt to the Tennessee Valley Authority*. Washington, D.C.: Public Affairs Press, 1959.

- Leuchtenburg, William E. *Franklin D. Roosevelt and the New Deal, 1932-1940*. New York: Harper & Row Publishers, 1963.
- Lilienthal, David E. *TVA: Democracy on the March*. New York: Harper, 1944.
- Lowitt, Richard. *George W. Norris: The Triumph of a Progressive, 1933-1944*. Urbana: University of Illinois Press, 1978.
- Martin, Roscoe C., ed. *TVA, The First Twenty Years: A Staff Report*. University, Alabama: University of Alabama Press. Knoxville: University of Tennessee Press, 1956.
- Marx, Leo. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. New York: Oxford Press, 1964.
- McBride, Don. *TVA and National Defense*. Knoxville: Tennessee Valley Authority, 1975.
- McCraw, Thomas K. *Morgan vs. Lilienthal: The Feud within the TVA*. Chicago: Loyola University Press, 1970.
- _____. *TVA and the Power Fight: 1933-1939*. Philadelphia: J.B. Lippincott Co., 1971.
- _____. "The New Deal and the Mixed Economy." In *Fifty Years Later: The New Deal Evaluated*, ed. Harvard Sitkoff, 37-66. New York: Alfred A. Knopf, 1985.
- McDonald, Michael J. and John Muldowny. *TVA and the Dispossessed: The Resettlement of Population in the Norris Dam Area*. Knoxville: University of Tennessee Press, 1982.
- McPherson, James M. *Abraham Lincoln and the Second American Revolution*. New York: Oxford University Press, 1991.
- Milward, Alan S. *War, Economy, and Society, 1939-1945*. Berkeley: University of California Press, 1979.
- Moore, John H., ed. *The Economic Impact of TVA*. Knoxville: University of Tennessee Press, 1967.
- Morgan, Arthur E. *The Making of TVA*. Buffalo: Prometheus Books, 1974.
- Morgan, Ted. *Roosevelt: A Biography*. New York: Simon and Schuster, 1985.
- Munzer, Martha E. *Valley of Vision: The TVA Years*. New York: Alfred A. Knopf, 1969.

- Nash, Gerald D. *The American West Transformed: The Impact of the Second World War*. Bloomington: Indiana University Press, 1985.
- Nelson, Donald M. *Arsenal of Democracy: The Story of American War Production*. New York: Harcourt, Brace, 1946.
- Neuse, Steven M. *David E. Lilienthal: The Journey of an American Liberal*. Knoxville: University of Tennessee Press, 1996.
- Nurick, Aaron J. *Participation in Organizational Change: The TVA Experiment*. New York: Praeger, 1985.
- Owen, Marguerite. *The Tennessee Valley Authority*. New York: Praeger Publishers, 1973.
- Overy, Richard. *Why the Allies Won*. New York: Norton, 1995.
- Patterson, James T. *Congressional Conservatism and the New Deal: The Growth of the Conservative Coalition in Congress, 1933-1939*. Lexington: University of Kentucky Press, 1967.
- Perrett, Geoffrey. *Days of Sadness. Years of Triumph: The American People, 1939-1945*. New York: Coward, McCann & Geoghegan, 1973.
- Polenberg, Richard. *War and Society: The United States, 1919-1945*. Philadelphia: J.B. Lippincott, 1972.
- Pritchett, C. Herman. *The Tennessee Valley Authority: A Study in Public Administration*. Chapel Hill: University of North Carolina Press, 1943.
- Ransmeier, Joseph S. *The Tennessee Valley Authority: A Case Study in the Economics of Multiple Purpose Stream Planning*. Nashville: The Vanderbilt University Press, 1942.
- Rhodes, Richard. *The Making of the Atomic Bomb*. New York: Simon and Schuster, 1986.
- Roberts, Elliott. *One River—Seven States: TVA-State Relations in the Development of the Tennessee River*. Knoxville: The Bureau of Public Administration, The University of Tennessee, 1955.
- Robock, Stefan H. "An Unfinished Task: A Socio-Economic Evaluation of the TVA Experiment." In *The Economic Impact of TVA*, ed. John H. Moore, 105-120. Knoxville: University of Tennessee Press, 1967.
- Rothman, Hal K. *The Greening of a Nation? Environmentalism in the United States since 1945*. Fort Worth, Texas: Harcourt Brace College Publishers, 1998.

- Schlesinger, Arthur M., Jr. *The Age of Roosevelt*. 3 vols. Boston: Houghton Mifflin, 1957-1960.
- Schulman, Bruce J. *From Cotton Belt to Sunbelt: Federal Policy, Economic Development and the Transformation of the South, 1938-1980*. New York: Oxford University Press, 1991.
- Schwarz, Jordan A. *The New Dealers: Power Politics in the Age of Roosevelt*. New York: Alfred A. Knopf, 1993,
- Selznick, Philip. *TVA and the Grass Roots: A Study in the Sociology of Formal Organization*. Berkeley: University of California Press, 1949.
- Sitkoff, Harvard, ed. *Fifty Years Later: The New Deal Evaluated*. New York: Alfred A. Knopf, 1985
- Smith, George D. *From Monopoly to Competition: The Transformation of Alcoa, 1888-1986*. Cambridge: Cambridge University Press, 1988.
- Sparrow, Bartholomew H. *From the Outside In: World War II and the American State*. Princeton, N.J.: Princeton University Press, 1996.
- Swidler, Joseph C. *Power and the Public Interest: The Memoirs of Joseph C. Swidler*, edited and annotated by A. Scott Henderson. Knoxville: The University of Tennessee Press, 2002.
- Talbert, Roy. *FDR's Utopian: Arthur Morgan of the TVA*. Jackson: University Press of Mississippi, 1987.
- Tindall, George B. *The Emergence of the New South, 1913-1945*. Baton Rouge: Louisiana State University Press, 1967.
- Vatter, Harold G. *The U.S. Economy in World War II*. New York: Columbia University Press, 1985.
- Wiebe, Robert. *The Search for Order, 1877-1920*. New York: Hill & Wang, 1967.
- Weiss, Nancy J. *Farewell to the Party of Lincoln: Black Politics in the Age of FDR*. Princeton: Princeton University Press, 1983.
- Wheeler, William Bruce and Michael J. McDonald. *TVA and the Tellico Dam, 1936-1979: A Bureaucratic Crisis in Post-Industrial America*. Knoxville: University of Tennessee Press, 1986.
- Whitman, Willson. *God's Valley: People and Power along the Tennessee River*. New York: Viking Press, 1939.

- Wildavsky, Aaron. *Dixon-Yates: A Study in Power Politics*.
New Haven: Yale University Press, 1962.
- Wright, Gavin. *Old South. New South: Revolutions in the Southern Economy Since the Civil War*. New York: Basic Books, 1986.
- Wunderlin, Clarence E. Jr., ed., *The Papers of Robert A. Taft: Volume 2, 1939-1944*.
Kent, Ohio: Kent State University Press, 2001.

Articles:

- Cole, William W. "The Impact of TVA upon the Southeast." *Social Forces* 28 (1949-1950): 435-440.
- Durisch, Lawrence L. "The TVA Program and the War Effort."
The Journal of Politics 8 (1946): 531-37.
- . "Southern Regional Planning and Development."
The Journal Of Politics 26 (February 1964): 41-59.
- Duffus, R.L. "Our River of Power Flowing to War." *New York Times Magazine*,
28 March 1943, 7-9, 23.
- Eulau, Heinz. "Neither Ideology nor Utopia: The New Deal in Retrospect."
Antioch Review 19 (Winter 1959-1960): 523-37.
- Felsenthal, Edward. "Kenneth Douglas McKellar: The Rich Uncle of the T.V.A."
West Tennessee Historical Society Papers 1966 (20): 108-22.
- Kneebone, John T. "Liberal on the Levee: Hodding Carter, 1944-1954."
Journal of Mississippi History 49 (1987): 153-62.
- Kohler, E.L. "The TVA and its Power-Accounting Problems."
The Accounting Review 23 (January 1948): 44-62.
- Lilienthal, David E. "The TVA and Decentralization." *Survey Graphic* XXIX
(June 1940): 335-37, 363-67.
- Neuse, Steven M. "TVA at Age Fifty-Reflections and Retrospect."
Public Administration Review, November-December 1983, 491-99.
- Pope, Dean. "The Senator from Tennessee." *West Tennessee Historical Society Papers* 1968 (22): 102-22.

- Rogers, Michael. "TVA Population Removal: Attitudes and Expectations of the Dispossessed at the Norris and Cherokee Dam Sites." *The Journal of East Tennessee History* 67 (1995): 89-105.
- Satterfield, M.H. "TVA-State-Local Relationships." *American Political Science Review* 40 (October 1946): 935-49.
- Segal, Howard. "Down in the Valley: David Lilenthal's *TVA: Democracy on the March*." *The American Scholar* vol. 64, no. 3 (Summer 1995): 423-27.
- Shapiro, Edward. "The Southern Agrarians and the Tennessee Valley Authority." *American Quarterly* 22 (1970): 791-806.
- Stoler, Mark A. "Military History is Alive and Well." *Reviews in American History* Vol. 29 (September 2001): 441-46.
- Swidler, Joseph C. and Robert Marquis. "TVA in Court: A Study of TVA's Constitutional Litigation." *Iowa Law Review* 32 (1947): 296-326.
- Tugwell, R.G. and EC. Banfield. "Grass Roots Democracy-Myth or Reality." *Public Administration Review* 10 (Winter 1950): 47-55.

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