CHAPTER TWO

Crisis Management and the Rise of the Lustron Corporation

War is the health of the machine.
—Lewis Mumford, *Technics and Civilization*

As the United States prepared for war, the prefabricated housing industry faced an exceptional opportunity to align its development with the numerous federal housing programs associated with defense mobilization. The industry had taken important technological and organizational steps during the 1930s yet remained a peripheral development with uncertain commercial promise. It was far more influential in theory than in practice, although conventional builders and housing-component manufacturers had to some degree embraced the movement’s emphasis on standardization. Yet the pressing need for housing to serve the massive internal migration accompanying military mobilization promised to accelerate the development of integrated building technologies and assist innovative approaches to the design and construction of residential housing.

Like entrepreneurs in other industries affected by the mobilization effort, leaders of the long-depressed housing industry welcomed the economic opportunities presented by the defense program. Prefabricated housing firms especially sought to leverage their involvement to gain market advantage and political influence at the expense of conventional builders. As in the early years of the depression, the social and economic disruption of wartime presented opportunities for experimentation and weakened the ability of entrenched interests to oppose new ideas. The scale, scope, and persistence of the wartime housing crisis gave rise to partnerships between prefabricators and government agencies, which threatened the particularistic conservatism of the private housing market. How long this window of opportunity would remain open was unclear, but it was evident that the defense housing program’s support for aggressive, innovative thinking about housing design and production raised
suspicions that longstanding economic and political relationships within the industry could be altered by renewed federal activism. The prospect of better living through better housing after the war also became an important influence on the advancement of housing technologies during the war. “After total war can come total living,” one wartime advertisement predicted, and as the war progressed expectations for new lifestyles based on home ownership increasingly seemed a logical and just recompense for service to God and country.

Production for Use

With war clouds gathering and the industrial mobilization program gaining momentum, the Roosevelt administration soon faced the thorny issue of housing and its connection to worker productivity. As in the First World War, defense workers needed adequate housing, and they needed it quickly. The administration’s strategic objective of dispersing American war production across the nation and on the periphery of established cities heightened the crisis. New defense plants on the suburban fringe suited production efficiency but left workers far from established neighborhoods. The reconfiguration of the suburban periphery to house defense workers marked the beginning of a powerful transformation. Housing interests caught on quickly, anxious to share in the creation of a new setting where production and planning intersected with patriotism and profit. 

American families drawn to the economic opportunity of the new defense centers found no suburban utopia in the early stages of the mobilization effort. Their elation at the prospect of steady work and upward mobility after many years of depression was soon mitigated by the realization that they had nowhere to live. Some turned around and went home, others lived in their cars or sought shelter in abandoned trailers, grain bins, or railroad cars. In Bremerton, Washington, workers employed at a local naval yard inquired about the possibility of lodging at the city’s jail. The lack of decent shelter and basic sanitary services threatened the viability of the defense program and quickly captured the administration’s attention. Not since the early days of the New Deal had the federal government focused so keenly on housing, and its response reflected earlier tactics. It first sought to stabilize the private housing market and spur construction by providing subsidies for the construction of defense housing and increasing opportunities for defense workers to purchase homes. Working with the Defense Homes Corporation (DHC), an agency created to underwrite construction loans to developers, and the Federal Housing Administration (FHA), the administration encouraged defense workers to abandon renting and purchase new homes. In 1940 the FHA initiated a program to promote home ownership among
families with at least $2,500 annual income by guaranteeing a greater percentage of mortgage loans. With as little as $25 per month, a family could purchase “a modern home—comfortable to live in, attractive to look at, convenient to pay for.”

Indeed, these programs increased home ownership, and for families who could afford to purchase a home they were a godsend. However, as the dimensions of the mobilization effort became clearer, the administration recognized that a far more comprehensive program would be necessary. Even with generous subsidies, the private housing market could not produce defense housing quickly enough and in sufficient quantities to sate the demand of the nation’s ever expanding war production machine. In September 1940 Representative Fritz Lanham introduced legislation providing for federal construction of defense housing. Supported by a broad coalition of labor and social welfare groups, construction and real estate interests, and the home finance industry, President Roosevelt signed the National Defense Housing Act, popularly known as the Lanham Act, in October 1940. An opponent of low-income public housing, Lanham protected the private housing market by stipulating that federally assisted defense housing would only be built in areas ill served by private interests. He later secured an amendment that prohibited the conversion of defense housing to low-income public housing without congressional approval.

The Lanham Act authorized the Federal Works Agency (FWA) to construct housing for “persons engaged in national defense activities” and provided ample budgetary flexibility to experiment with a broad range of construction techniques and housing technologies. FWA director John Carmody, a veteran New Dealer and an architect of rural electrification, saw an opportunity to create model communities that would influence the course of residential construction and planning for decades to come. Carmody used the FWA’s constituent agencies, the U.S. Housing Authority (USHHA), the Defense Housing Division (DHD), and the Mutual Ownership Defense Housing Division (MODHD), to advance housing through research and development in building materials and systems, architectural innovation, and financial incentives. Another federal agency active in defense housing during the early stages of mobilization was the Farm Security Administration (FSA), which had a strong record of constructing emergency housing and working with innovative construction systems, including prefabrication.

From the signing of the Lanham Act in October 1940 through early 1942, the federal government built 207 defense housing projects and had 200 more in various stages of planning and construction. A review of several prominent examples reveals the government’s consistent interest in innovative architecture and improved building processes. The USHA, DHD, and FSA recruited noted architects and supported research and experimentation with new building technologies in the field and in the laboratory. Enlisting a modernist approach to architecture and design,
the federal programs solidified the connection between emerging building technologies and the desire for new residential forms. Open floor plans, efficient use of space, and greater integration of the outdoors through the use of larger windows and outdoor living spaces reflected a union of technology and design previously unknown on such a large scale.5

The defense housing programs influenced postwar residential design in profound ways, both in terms of architectural form and production processes. As architectural critic Peter S. Reed has observed, “the architectural triumphs and design innovations surrounding World War II . . . marked a turning point—thereafter modern architecture had come of age, emerging after the war as a hallmark of democracy, capitalism, and the Establishment.”6 The integrative approach that had long been sought by various constituents of the American housing system seemed at hand. Accelerated and concentrated by the defense housing crisis, the financial and organizational resources of an activist government advanced the cause of industrialized housing more in two years than in the previous four decades. The architectural profession was a key beneficiary and influential force within the defense housing program. The guiding hand of the architect played a role in fostering a productive revolution in housing while creating aesthetically attractive and socially rich communities. Apparently, systematization, standardization, and speed did not have to result in “dreary” housing but could be imaginatively employed to produce a new vision for American residential life.

The DHD under the leadership of Clark Foreman played a key role by enlisting a number of well-known architects. Foreman was sensitive to the mediating influence that architects exerted between production technologies and social and aesthetic considerations. He also hoped that associating the DHD with noted architects would mitigate any stigma associated with “government housing” and increase public acceptance of his program. Widely acclaimed in the press, the program attracted architects William Wurster, Walter Gropius, Eero Saarinen, Marcel Breuer, Louis Kahn, Alfred Kastner, Richard Neutra, and Frank Lloyd Wright. The program issued strict guidelines in accordance with the Lanham Act, which in 1940 allocated $150 million for defense housing and limited construction costs to $3,500 per dwelling unit. Despite these financial limitations, DHD architects produced a number of innovative designs.7

A notable example came from architects Walter Gropius and Marcel Breuer, well-known modernists and members of the German Bauhaus, one of the most influential architecture and design schools of the twentieth century. Gropius had gained considerable experience building low-cost housing in Germany before immigrating to the United States in the 1930s. The DHD commissioned Gropius and Breuer to design Aluminum City Terrace in New Kensington, Pennsylvania, near Pittsburgh, for workers at an ALCOA plant. The project’s design featured many aspects
of modernism such as ribbon windows, flat roofs, and open floor plans, even to the point of excluding walls between the bedrooms. Ironically, many of these features were typical in the very expensive homes designed by Gropius in the late 1930s. While some tenants did find the exteriors and interiors severe, most were happy with the large windows and open interior plans.8

Frank Lloyd Wright received his first government commission from the DHD to design a 100-unit housing project in Pittsfield, Massachusetts. With his usual flair, Wright proposed a quadruple, or “cloverleaf,” house design consisting of four units that shared central walls. Ever modest, Wright described the design as “standardization complete without stultification or loss of individual freedom.” The innovative and attractive cloverleaf design met the program’s $3,500 unit price ceiling, but just as Wright completed the construction documents for the project, local political turmoil intervened and the project never left the drawing board.9

In late 1941 the DHD hired Richard Neutra to design a defense housing community in San Pedro, California, near several large shipyards. Known as Channel Heights, the 165-acre site was dramatic, including irregular topography and stunning views of the Pacific Ocean. Neutra staggered dwellings for 600 families throughout the site with a geographic harmony that afforded most residents an ocean view without sacrificing privacy. Horizontally sliding windows and a combination living/dining area contributed to a feeling of interior spaciousness. The project also featured a meandering main road and a park with pedestrian paths that tunneled under the road at various points and extended through the entire development.10

Led by innovative architects, the defense housing program produced a number of excellent housing developments that served as models for the integration of technology and community. However, notwithstanding these efforts, by the end of 1941 the housing program was the furthest behind schedule of all defense building efforts. A change in policy was in the wind, and the administration began to consider the efficacy of the defense housing program’s concern for community building. Particularly influential was the work of architects William Wurster and Vernon Demars, who had separately designed dormitories, cabins, community buildings, and single-family houses for several thousand workers and their families in Vallejo, California, near the San Francisco shipyards. Half of Wurster’s one-story houses were constructed of stressed-skin, glued plywood panels and the remaining half with Homosote, a new wallboard made of wood pulp and ground newspaper bound with resin. The houses used framing systems that eliminated the need for load-bearing interior partitions, producing open interiors with large expanses of glass. Panels were trucked to the site, and walls were preassembled on the concrete slab floor and raised into place. Significantly, the structures at Vallejo were “demountable,” meaning that they could be easily torn down or relocated.11
After Pearl Harbor and the declarations of war, the administration was anxious to remove all delays and bottlenecks in what was now the war housing program. In February 1942 Roosevelt signed Executive Order 9070, establishing the National Housing Agency (NHA) and transferring to it responsibility for sixteen constituent agencies of the federal housing enterprise. Headed by John Blandford, the NHA coordinated all aspects of housing production including building materials, labor, construction methods, land acquisition, and financing. Blandford adopted a more rigorous commercial approach to the defense housing crisis, eschewing any aspirations for social reform as evidenced in previous programs under Carmody and his associates. Carmody had resigned the previous October for health reasons, and Blandford soon replaced Carmody’s senior staff with his own pragmatic, production-oriented team.12

Blandford’s appointment signaled a new era in the war housing saga, one in which the prefabricated housing industry would play a greater role. The focus on production signaled a departure from the construction of permanent communities that could serve as blueprints for postwar residential housing developments. Instead, the NHA sought to provide adequate but minimal shelter for war workers that could be “demounted” after the war. Supported by real estate interests and conventional homebuilders, the plan addressed fears that permanent government housing would compete against their interests and drive down property values in areas attractive for future development. For the prefabricated housing industry, the change in policy presented a tremendous opportunity. It was confident that it could deliver the type of housing that the government needed while at the same time remain shielded from competition and criticism from conventional builders who were willing to cede this part of the housing market for the duration of the war. Under cover of federal largess, prefabricators hoped to exploit their position against conventional builders by using the opportunity to refine productive technologies and use profits to fund research into marketplace barriers.

The reorientation of federal policy from the “utopian schemes” of the initial phase of the defense housing program to an ardent focus on production was more than a fortuitous development for the prefabricated housing industry. It meant that the government’s interest in housing technologies was no longer associated with the broad range of housing reform and social enterprise that had influenced earlier efforts, including many of the notable New Deal housing achievements. Technological innovation would play an important role, but not in the sense that the government would compel the private market to alter its modus operandi. Government support for prefabrication and other housing technologies would be limited to crisis conditions and would not produce permanent housing that competed with the private market or devalued areas for future residential development. The administration had made
its peace with the private housing market and reinforced the idea that the government would continue to provide financial and other infrastructure incentives to foster the expansion of home ownership but would not interfere in the future settlement of suburbia initiated by the mobilization program.

Even so, the private housing industry had to contend with unprecedented governmental involvement in the market, a fact that irritated it philosophically and politically far beyond the actual economic consequences for potential lost revenue due to government competition. The industry wondered how to convince the American public that the federal government should retreat from its activist stance once the war was over—without, of course, retreating from its indirect subsidies and market stabilization efforts that supported private development. One strategy was to reinforce in the public mind a differentiation of quality between government-built and privately built defense housing. This was largely a smoke screen since all defense housing was a semipublic enterprise in one way or another. Yet they claimed that government-sponsored housing was flimsy and unlikely to last the duration of the war. Indeed, not all defense housing projects were desirable or even livable by today's standards, but this stance ignored many innovative and attractive community projects like Channel Heights. To promote their views, industry leaders established the National Association of Home Builders (NAHB). NAHB quickly became an extremely powerful organization and reflected a broad industry perspective. It frequently and vociferously opposed all government-sponsored housing initiatives that it deemed detrimental to its interests. Important constituent groups of the NAHB included the U.S. Savings and Loan League, the National Association of Retail Lumber Dealers, and the Mortgage Bankers Association.13

The prefabricated housing industry stood in the midst of these developments, anxious to capitalize on the reorientation of the war housing program but uneasy in its relationship with conventional interests. Leveraging government opportunity into a stronger competitive position in the private market was a path fraught with peril. Moving beyond the "temporary" market into direct competition in the traditional marketplace, where numerous barriers existed in the form of building codes and localized financial and real estate practices, meant competing on uneven and politically hazardous ground. Yet the prospect of spearheading a mass-market production paradigm presented an opportunity to accelerate development under governmental aegis. With the federal government as a "sponsor," the industry felt sure that it could stake a claim to a profitable share of the residential construction market. In the meantime, prefabricated housing firms embraced the new direction of federal war housing policy with great energy and imagination.

Historically strong on production technology but lacking marketing savvy, prefabricated housing firms looked to the government to guarantee a profitable market and
thus remove one of the most vexing problems inhibiting commercial development. In 1940 there were only thirty prefabricated housing firms producing on a steady basis. The output of the industry was miniscule, accounting for less than 1 percent of all the single-family houses built in the United States during that year. The industry was clearly on trial during the early stages of war mobilization. Many in government remained skeptical of its ability to produce quality products in a timely manner on a large scale. The demonstration period of the 1930s was over, and the industry now had to step to the fore with attractive products to sustain government investment. However, prefabricators anticipated garnering an increasing share of the defense housing market by increasing the speed of production and emphasizing cost savings.

As the American war production machine expanded and the need for worker housing increased, Blandford and the NHA increased pressure on the industry to provide more houses in less time. The industry responded quickly, growing to over one hundred firms by early 1943. Entrepreneurs like Foster Gunnison of New Albany, Indiana, whose firm pioneered new assembly line production techniques, advanced the slogan “Press a Button, Get a House,” which reinforced the idea that the industry was ready to deliver on the promise of mass-produced housing. The “production focus” clearly indicated a lessening of concern for integrating prefabrication with the community development approach championed by Carmody, which employed prefabrication but focused attention on environmental and communal factors.

Temporarily freed from concerns over the “proper” placement of its houses in neighborhood settings, prefabricated housing firms focused their attention on refining production technologies and engineering expertise. Companies working with wood systems made incredible progress in a short period of time, advancing the quality of wood-based prefabricated housing and exerting considerable influence over conventional building practices as well. Stressed-skin plywood panels and wood sandwich wall systems using various combinations of products came of age during the war. Modular design became much more prevalent as engineers focused on production flexibility as well as high-volume production. The modular concept employed in a variety of commercial applications such as war plants helped prefabricators and architects conceptualize the residential construction process in a more efficient and holistic manner. The freedom to design “houses” rather than “communities,” coupled with the industrial focus of the war housing program, unleashed creative energies that had far reaching implications. A key development was the use of modular components, such as bathroom or mechanical systems, which advanced standardization across the entire construction industry and helped all types of residential builders cut costs and improve production.

The prefabricated housing industry also gained an increasingly powerful sense of self-awareness during the war. Established in 1942, the Prefabricated Home
Manufacturers Institute (PHMI) became the primary trade association for the industry. The Institute established quality standards, assisted startup firms with cost and accounting studies, and encouraged members to identify and address nagging problems such as marketing and distribution. PHMI functioned as a clearing house for information and fostered discussion of internal and external issues affecting the industry. It focused a great deal of attention on public relations, especially concerning issues of durability and design that presented important barriers to public acceptance. In 1943 the Institute began publishing Prefabricated Homes, a monthly magazine chronicling all facets of the industry. Aware of the industry’s intimate connection to the government, PHMI also initiated a lobbying campaign to influence national and local governmental policy. From encouraging additional federal support to assisting the revision and adaptation of local building codes, PHMI became an active and influential voice for the industry.16

The war years accelerated the maturation of prefabrication in a number of important ways. The productive orientation of the war housing program forced the industry to bring its product to the market in a timely manner. Indeed, the industry accounted for 200,000 of a total 1.6 million houses built under the various programs. The “houses of the future” orientation of the industry was replaced with a more pragmatic and commercially savvy approach. The war brought a needed dose of fiduciary reality and forced companies to face the range of thorny issues surrounding the prefabrication process. Even though the product that emerged was anything but fully realized, it was a start. The “dreamers to doers” pressure of the war also produced a sense of optimism that prefabrication’s golden age lay just around the corner in the postwar era—a time where process, product, and setting would be fully industrialized and integrated.17

The war housing program gave the industry an opportunity to “practice” developing simple houses in large volumes. Lessons learned in improving engineering and manufacturing methods, as well as site erection efficiency, provided keys to serving the mass market. A crucial lesson in scale was also learned at a minimal cost to the industry. Production volume matters in industrialized building, and its relationship to unit cost must be intricately understood and accounted for before any plans to serve the mass market with affordable single-family homes can be implemented. The positive influence of wartime building on the overall financial health of the industry and its ability to attract investment, obtain credit, initiate research and development, and expand operations proved invaluable as well. Prefabrication’s influence on building processes in general was also accelerated by the war. Large conventionally built war housing projects employed more effective techniques of prefabrication, such as materials standardization, specialization of labor, and rational planning of material flow. As much as possible, traditional builders brought factory methods to the site in the
form of power tools, jigs, cranes, and other material handling equipment. Site prefabrication was indeed a major beneficiary of the defense housing program’s focus on production efficiency. The government thus played an important educational role for the merchant builders who would construct most of the postwar suburban housing in the United States.

Yet the industry was hardly home free. Numerous challenges and uncertainties remained. The focus on production in the service of the war housing crisis mitigated interest in marketing and distribution. Serving one customer rather than the open market fostered growth but impeded consideration of how the industry would serve the particularistic and ever changing preferences of the home-buying public. The perception of quality and permanence was crucial in attracting interest among postwar consumers, and the industry had not fully processed the marketing implications of producing its demountable, “bare-bones” models during the war. PHMI and other industry groups began to research and analyze public perceptions of prefabricated housing and devise methods for addressing the inherent tensions between standardization and design flexibility.  

The public had strong personal preferences about housing forms nurtured by decades of tradition. Could prefabrication evolve to serve their wide ranging and often fickle tastes? The issue touched all phases of the housing equation. Americans were ready for the “house of tomorrow” today, but would they recognize it if they saw it? Conventional builders played on the association between prefabrication and impermanence, and organizations such as the PHMI worked diligently to change public opinion. It would prove a difficult task. In late 1944 the Curtis Publishing Company conducted a poll revealing that while 74 percent of respondents had heard of prefabricated housing, only 17 percent would consider living in one. A subsequent Fortune poll reported that a majority of respondents believed that prefabricated houses were not soundly constructed, lacked individuality, and would not last more than a few years. Although the result of the defense housing program’s focus on quick, simple, and demountable housing, the polling was nevertheless disconcerting. What fed the industry’s growth also cost it in terms of future viability outside of crisis conditions. These concerns notwithstanding, networks of opportunity presented to the prefabricated housing industry during the war had positioned it for further growth.

The Veterans’ Housing Opportunity

As the American war machine marched ever closer to victory, concerns over the transition to a peacetime economy gained widespread attention. Would the depression return? Should wartime controls be extended or curtailed? Would people return
to cities when the suburban defense plants scaled back? Nobody knew for certain. The promise of postwar prosperity and heightened desires for the good life pervaded the popular media, but significant numbers of articles also warned of the economic uncertainties inherent in the reconversion process. The housing industry, as always, was a key focus of concern for a wide range of political, economic, and social observers and actors. The unique blend of commerce and community inherent in the American housing system again took center stage in the national arena.

As a result of its role in the war housing program, prefabrication became a more visible and viable element in the planning and implementation of postwar housing strategies. The industry’s consistent presence in federal policy discourses and actions as well as the continuing specter of its disruptive potential in the private market demonstrated its newfound gravity. Social, economic, and political forces would impact the industry in the immediate postwar era in profound ways, shaping its future development as they had in the past. However, unlike the 1930s or the war years, one company—the Lustron Corporation—would come to represent the fortunes of the entire prefabricated industry.

The dream of home ownership in a suburban setting, which had been cultivated by the press and by the government since the 1920s, had taken root. Indeed it was no longer a dream, but an expectation, and returning veterans expected and demanded that the government they had served so well do as much as possible to make good on its promises. Interestingly, according to a poll in the Saturday Evening Post, 86 percent of Americans wanted new houses, not apartments or “used” houses. Reflecting years of pent-up demand and memories of substandard housing during depression and war, returning veterans and their families wanted new homes with all the conveniences that modern industry could provide. The passage in 1944 of the Serviceman’s Readjustment Act was an important first step. The GI Bill of Rights included two powerful and transformational elements that would define middle-class life in the postwar era—free college tuition and interest-free mortgages that required little or no money down at the time of purchase. Government underwriting of veterans’ mortgages provided a financial foundation for the expansion of home ownership. All veterans needed now were the houses.

With the right to decent housing affirmed by federal actions during the Depression and war, most Americans looked to the federal government to extend that commitment in the postwar era. The GI Bill was an excellent start, but the government also needed to facilitate housing production to satisfy a potentially enormous demand. Few in government had a clear picture of the dimensions of the problem, and many thoughtful Americans believed that a return to depression was almost certain. In general, the Truman administration initially underestimated the impact of what would come to be known as the veterans’ housing crisis. The war ended suddenly
and caught the administration without a coherent strategy and with divergent views in its own ranks. Lacking clear definition, Truman’s housing policies produced bickering, posturing, and intimidation within the administration and muddied relations with Congress on a range of reconversion issues. How best to stimulate the production of housing—not just temporary housing, but the kind of single-family suburban-based “new” housing that most Americans desired—was a complex and nuanced problem that called upon numerous constituencies to craft commercial and communal strategies to meet the crisis.21

Approximately ten million veterans were discharged from the U.S. armed forces during 1945 and 1946. Throughout the nation millions of reunited families and newly married couples sought shelter with relatives or occupied a variety of other “residences,” including garages, attics, boxcars, and even chicken coops.22 Veterans’ groups led the nation in a powerful and emotionally charged call for governmental action. The challenge to the prefabricated housing industry, and also an important source of its appeal to government policy makers, was the potential ability to unite production with form and setting. This was the brass ring of prefabrication—the industrialization of residential construction accomplished within established norms of community development. A technological and production focus was a key result of the second phase of the war housing program, and it had fostered creative thinking across the industry as entrepreneurs calculated how best to capitalize on new methods and materials once the war was over. Support for prefabrication in the postwar era was thus in keeping with governmental policy. The question remained, however, if prefabrication held the promise of a better postwar America by providing affordable housing for the wage earner market segment that had been long neglected by conventional builders.

As the flow of discharged veterans increased, pressure mounted quickly on the administration to address the production issue. Fears of returning depression clearly heightened interest in industrialized housing as a pathway to sustained prosperity and ongoing social investment. Direct and indirect investment through the use of government agencies such as the NHA and the VA and government corporations such as the RFC might provide needed capital and credit to foster integrated production as well as allocate needed materials to launch an industrial revolution in the housing industry. However, complicating the response of the Truman administration to the veterans’ housing crisis was a split between two factions. Truman himself was ideologically inclined to end price controls on housing and production restrictions on building materials, but others believed that the continuation of controls could soften the impact of any potential economic decline and grant the administration more control over the reconversion process.23

A leading advocate for ending controls was Julius Krug, head of the War
Production Board (WPB). John Snyder of the Office of War Mobilization and Reconversion (OWMR) supported Krug and agreed with the NAHB and other representatives of the private housing industry that further controls would hamper reconversion. Chester Bowles, head of the Office of Price Administration (OPA), strongly opposed that viewpoint. Bowles feared disordered production, price gouging, and widespread shortages of affordably priced housing. Although the NHA and organized labor sided with Bowles, Truman ended controls and restrictions on 15 October 1945 in the hopes that renewed construction activity would spur the economy.24

A building boom indeed resulted. However, it did not produce affordable housing for veterans but a “rash of race tracks, mansions, summer resorts, bowling alleys, stores, and cocktail bars.” The administration quickly recognized its mistake. Bowles had continued to lobby for renewed controls, using an appeal to veterans’ rights as his main argument and pointing out that promoting high-market building was inconsistent with the goals of the GI Bill. In November, Bowles turned to his friend Congressman Wright Patman, the liberal Democratic chairman of the Banking and Currency Committee, who introduced a housing bill that gave the executive broad powers to reinstate controls, stimulate production, and create new agencies to further the cause of affordable housing.25

Truman used the bill to refocus the administration’s energies on an emergency housing production program. In December he announced support for production priorities and housing price controls and began formulating a comprehensive housing program. In January 1946 the president announced the creation of the Office of the Housing Expediter to lead, coordinate, and facilitate the government’s response to the crisis. He appointed Wilson Wyatt, a liberal Democrat, attorney, and former mayor of Louisville, Kentucky, to head the office. Truman also named Wyatt administrator of the NHA. As mayor of Louisville, Wyatt had attracted national attention as a successful reformer and consensus builder. Although he lacked direct experience or expertise in housing, the president believed that his administrative abilities and forceful personality well suited the demands of the position.26

Truman instructed the young and energetic administrator to “make no little plans” and conferred sweeping powers to “search out bottlenecks at whatever level of industry or of Government . . . and make the machinery of housing production run as smoothly as possible.”27 Wyatt faced a double-edged sword. If he moved too boldly, he risked engendering bureaucratic intransigence and partisan maneuvering, which heightened the possibility of a grand and very public failure. Choosing a moderate path also held dangers, for the administration did not wish to incur the wrath of powerful veterans’ groups who demanded an immediate solution to the crisis. Though cautious in his first public statements, Wyatt nevertheless promised to “lick” the housing crisis “in the not too distant future.”28
Defining goals and developing strategies to meet the crisis occupied Wyatt’s first weeks in office. He immersed himself in housing literature and held a series of conferences with government leaders, veterans’ groups, labor unions, real estate associations, and building materials producers in an effort to gain a better understanding of their perspectives on the housing crisis. This “cram course,” as he described it, was necessary to “learn where we were, where we wanted to go, and how we might get there.” For Wyatt this was a crusade—a continuation of wartime efforts and an extension of the same spirit of mutual interest and cooperation between industry and government that had won the war. Comparing housing production for returning soldiers to wartime production for soldiers on the front lines, Wyatt tapped into powerful feelings for America’s returning heroes and aspirations for their domestic welfare in the postwar era.29

After five weeks of study, Wyatt presented his Veterans’ Emergency Housing Program (VEHP) to the American public on 7 February 1946. Truman issued a statement accompanying the report that praised the program as “bold, vigorous, and eminently practical” and guaranteed “the complete and unqualified support of the Administration.”30 Wyatt’s program reflected his belief that the housing shortage could only be relieved by the continuation of strict governmental economic controls. Without controls, he argued, builders would produce more profitable higher-priced homes that few veterans could afford. Wyatt defined affordable housing as new houses costing $6,000 or less or renting for under $50 per month. Mindful of the postwar desire to end wartime restrictions, Wyatt nevertheless called for sacrifice from all sectors of the economy: “Neither business-as-usual, labor-as-usual, building-as-usual, nor Government-as-usual will suffice.”31

Wyatt established the lofty goal of constructing 2.7 million low- and moderate-cost houses by the end of 1947 and proposed a number of emergency measures to achieve that goal. These included giving preferences for veterans and their families in the rental or purchase of homes, tripling the present labor force engaged in residential construction, postponing all nonessential construction for the remainder of the year, and providing federal cooperation and assistance in the development of home sites. Additionally, the formation of “emergency housing committees” in cities throughout the nation would serve as a link with the federal government to assess local needs and monitor compliance with the program.32

To encourage the production of innovative building materials, Wyatt advocated the use of market guarantees, rapid tax amortization for new or converted factories producing essential building materials, the allocation of surplus war plants to increase production capacity, and federal assumption of “undue economic risk” for research and development into new approaches to residential construction. Support for all types of prefabricated housing provided a key component in the VEHP.
Using federal assistance in the form of loans from the RFC and market guarantees from the NHA, Wyatt believed that prefabrication could account for as many as 600,000 of the projected 2.7 million units.33

The house-starved American public overwhelmingly supported the VEHP. According to one of Wyatt’s associates, in the weeks after its announcement a wide range of interests “seemed to vie with one another in praising it.”34 Never had a housing program attracted so much favorable public attention and comment, a development that brought even more pressure to bear on the VEHP. Wyatt recognized a good thing when he saw it and leveraged the enthusiasm to further his program. However, because the VEHP derived its power from the Second War Powers Act, due to expire in June 1946, the administration needed congressional approval to implement the full range of Wyatt’s plans. Some conservative senators and representatives expressed concern over what they called “the socialist provisions” of the program, such as continued controls on material allocation and financial support for the prefabricated housing industry. Arguing that an unrestricted economy would produce housing quicker and more efficiently than a new bureaucracy, conservatives charged that Wyatt possessed dictatorial powers to favor any manufacturer he wished.35 Despite these reservations, the Veterans’ Emergency Housing Act (VEHA) passed both houses of Congress and Truman signed it on 22 May 1946.36

The Act represented a triumph for the administration and an endorsement of Wilson Wyatt. Full of confidence, he announced that his program would now “go into high gear.”37 Following congressional approval, Wyatt moved quickly, using his powers to divert scarce construction materials into housing for veterans and curtailing all “nonessential” construction.38 Although he believed that the supply of materials presented the greatest barrier to the success of his program, he failed to anticipate the unswerving resistance of the housing industry to the continuation of governmental controls, as well as the crippling effects of labor disputes in key industries that slowed the production and distribution of essential materials. Wyatt stood helpless as shortages of gypsum board, plywood, lath, bricks, pipe, and nails continued. Even with his broad powers, he could not create instant supplies or stop strikes against key producers.39

Despite these obstacles Wyatt remained optimistic and reported in June that the program was well on its way toward achieving the goal of 1.2 million housing “starts” during 1946.40 However, by late summer the construction industry had started only 600,000 units and completed fewer than 190,000 permanent dwellings. Public opinion, led by veterans’ groups, began to turn against the VEHP.41 Facing extreme political pressure and realizing that conventional building would never meet his goals, Wyatt attempted to save the VEHP and his Washington career by reorienting the program toward the development of prefabricated housing. The enthusiasm and vigor
with which Wyatt pursued production through prefabrication reflected a genuine belief in the promise of the industry as well as a desire to spur conventional builders to act with greater speed lest they be left behind. Wyatt's strategy was rationalized by his acceptance of the belief, best articulated by General Motors' Chairman Alfred P. Sloan, that prefabricated housing "could well be the greatest industrial opportunity since the development of the automobile."

Enter Strandlund

There was another man in Washington who felt the same way—Carl G. Strandlund. Strandlund was vice president and general manager of the Chicago Vitreous Enamel Products Company, one of the leading firms in the American enameling industry. The company had dispatched him to Washington to seek an allocation of steel for the company's fledgling enameled-steel panel construction business. A seasoned mechanical engineer with an entrepreneurial zeal and zest for life that attracted both friends and attention in great measure, Strandlund was at the pinnacle of an impressive career. Portly and balding and in his mid-fifties, he possessed seemingly inexhaustible stores of energy and an impressive array of skills and abilities. Soon he would need all his talents, for his trip initiated a chain of events that united the technological, entrepreneurial, and political elements that gave rise to the Lustron Corporation.

Strandlund’s easy demeanor and engaging, polished personality had facilitated his entrée into a wide array of social and commercial circles. He was active in industry associations and social clubs but above all loved sports, especially horse racing. The sporting life of the race track held a special appeal for Strandlund, for it fed his risk-taking nature and boisterous spirit. He owned and raced a series of thoroughbreds at Arlington, Hialeah, and Pimlico. Strandlund enjoyed wagering on the ponies, and even though he lost more than he won he shrugged off his losses and moved on to the next prospect. Money was a means to Strandlund, not an end. He firmly believed that he could always make more.

A man of considerable style, Strandlund also possessed the practical, ordered mind of an engineer, keen commercial instincts, and a lust for innovation. It ran in his veins. Strandlund was born in Sweden in 1888, the grandson of one of that nation’s most prominent engineers. When he was four, his family immigrated to the United States and eventually settled in Moline, Illinois. His father found work at John Deere and Company and eventually received over three hundred patents for improvements to farm machinery. Carl showed an early aptitude for "hands-on" engineering, spending countless hours beside his father in the family’s workshop. He understood the most mundane technical details and could explain them to virtually any audience.
He was also adept at motivating people—a leader who could inspire employees to achieve beyond their expectations and a visionary who could sway customers and influence investors to embrace his ideas. People seemed to accept him at a fundamental level, and he reciprocated by infusing enthusiasm and excitement into every endeavor.44

After graduating from Moline High School, Strandlund studied engineering through correspondence courses. His first job was with the Minneapolis Moline Power Implement Company, where he worked from 1923 to 1935 as a production engineer. Here Strandlund’s reputation as a “guy who could design for production” was born. During his tenure at Minneapolis Moline, he amassed over 150 patents, ranging from improving tractor seat design, significantly increasing weight to horsepower ratios in tractors and combines, to using rubber tires instead of metal wheels on tractors—all of which increased the market potential and consumer acceptance of the company’s products.45

From Minneapolis Moline, Strandlund joined the Oliver Farm Equipment Company as director of engineering and development. He headed manufacturing operations at Oliver’s four plants in Iowa, Indiana, Michigan, and Ohio. His focus on production efficiency and supplier management transformed operations and in 1937 he became president of the firm. As president Strandlund increased revenues
from $20 to $120 million. Before joining Chicago Vitreous, Strandlund worked as a consulting engineer for the Chicago Steel Foundry Company and for B. F. Goodrich in Akron, Ohio. His work at Goodrich on improved designs for tank treads drew the attention of the War Department and gave him his first exposure to the intricacies of the defense contracting business.46

In April 1942 Strandlund joined Chicago Vitreous with specific duties to oversee its conversion to war production. The company had secured contracts from the ordnance department of the Army for the production of gun turrets, armor plating for tanks, and, intriguingly, powdered eggs for ration packets. Chicago Vitreous engineers quickly mastered powdered egg production by converting machinery formerly used to grind enameling clays.47 However, the production of gun turrets and armor plating required expertise beyond the company’s capabilities. Strandlund’s outgoing personality, quick wit, and production expertise immediately impressed the owners of Chicago Vitreous, brothers William and Emanuel Hogenson. The enthusiastic sportsman with an air of easy opulence fit well into the corporate culture, and his hand-tailored suits seemed always to have just the “right degree of rumple.”48

The Hogensons’ selection of Strandlund proved wise, for he soon developed an important production innovation for the armor plate program that brought widespread acclaim to the company. Strandlund’s “press-quench” method for hardening armor plate cut production time from over five hundred man-hours per ton to only twenty man-hours per ton and reduced processing time for one key operation in the plating process from fourteen hours to just six minutes. The innovation was hailed as one of the most outstanding contributions to war production technology in the Chicago production district, earning him an award for engineering innovation from the Chicago Tribune and Chicago Vitreous the Army-Navy “E” award for excellence in war production. In September 1943 the Hogensons promoted him to vice president and general manager. He had become the “third brother.”49

Since arriving at Chicago Vitreous, Strandlund had been intrigued with the company’s prewar interest in developing construction systems from enameled-steel panels. In 1932 the company had established Lusterlite Laboratories, a research facility created to develop commercial processes for manufacturing enameled-steel panels. Lusterlite also functioned as an informal subsidiary charged with promoting the use of enameled-steel panels in the construction industry.50 Industrial applications for porcelain-enameled steel remained limited until the early-twentieth century due to a lack of technical expertise and an inability to produce a quality product on a commercial scale. Beginning in the 1920s, however, several American companies developed new production techniques for the basic component of enamel, a gritty substance known as “frit,” and launched important research and development efforts to improve the quality of enamels and reduce production costs. Eager to promote the
use of enamels, several firms began to explore architectural applications of enameled-steel panels, first for decoration, then later as structural components in commercial buildings.

The manufacture of porcelain-enamed steel involved several processes. The first step, called fritting, required smelting a variety of minerals, including feldspar, borax, quartz, cobalt, nickel, and manganese in a 2,000-degree furnace in much the same manner as common glass. From the smelter, conveyors directed a molten ribbon of glass through water-cooled rollers. The sudden change in temperature shattered the compound into millions of granules. The frit then traveled through dryers and across magnetic separators to remove traces of iron that caused specks and discoloration in the enamel. The final phase of the process included grinding the frit with water and clay to produce a porcelain enamel solution. The creamy liquid was then ready for application onto steel by dipping or spraying. Only special grades of thoroughly cleaned steel provided an acceptable surface for enameling. After applying the initial coat of liquid enamel, the metal passed first through a drier and then to a 1,600-degree furnace that permanently fused the enamel onto the metal. The resulting product was virtually indestructible, easily maintained, and potentially well suited for a variety of architectural applications.

The two most prominent companies in the field, Ferro Corporation of Cleveland, Ohio, and Chicago Vitreous, formed the core of the U.S. enameling industry in the early-twentieth century. William Hogenson, president and eldest son of Chicago Vitreous founder Emanuel Hogenson, was the driving force behind the efforts to expand markets for enameled steel. A member of the nation’s first generation of professionally trained ceramic engineers, he assembled a team of engineer-salesmen at Lusterlite and created the foremost research and development facility in the industry. Hogenson also founded the Porcelain Enamel Institute, the industry’s first trade association, and with his brother, Emanuel, Jr. founded and published Better Enameling, a trade journal that promoted the enameling industry in general and provided a showcase for the company’s line of enameled products for architectural applications.

Like other companies that developed new building components or technologies, the Hogensons realized that Chicago Vitreous’s success rested on its ability to educate and evangelize its products to architectural and construction firms. The company would need to demonstrate not only the aesthetic appeal of porcelain-enamed building components but relate that appeal to practical commercial goals such as attracting more customers or decreasing maintenance costs. Better Enameling featured numerous, lavishly illustrated articles exploring these themes, including several speculating on the development, and welcome inevitability, of mass-produced porcelain-enamed steel buildings and houses.
Tireless promoters, the Hogensons conceived a dual purpose for Lusterlite Laboratories. In addition to its technical mission, the lab facility itself also served as a promotional vehicle to encourage the use of enamel products in architecture and design. With 10,000 square feet of laboratories and 12,000 square feet of decorative porcelain enamel, it was unparalleled in the industry. While the technical capabilities of Lusterlite drew much attention from the ceramic industry, the striking porcelain-enameled art deco interior drew rave reviews from the design and architectural trade press. Each room featured a different decorative scheme that emphasized eye appeal as well as functionality. Combining form with function throughout the building, the company created an attractive work environment while demonstrating architectural applications of its products.

Lusterlite Laboratories perfectly reflected the visual aesthetic of the era. Streamlined, art deco elegance pervaded industrial design, urging consumption on the depression-ravaged American consumer by appealing to high style and by employing design cues borrowed from airplanes and other “high-tech” harbingers of an exciting future. Even the most mundane objects were streamlined and stylized by such notable industrial designers as Raymond Loewy, Walter Dorwin Teague, and Norman Bel Geddes, often with great commercial success. The home appliance industry felt the full force of the streamlining movement, and as a major supplier of frit to companies manufacturing porcelain-enameled washers, dryers, and refrigerators, Chicago Vitreous was well attuned to the commercial potential of the streamlined design aesthetic. That the built environment should escape the trend—a trend that spoke to the hope for a more prosperous, and indeed more organized future—seemed unthinkable.

The notoriety of Lusterlite Laboratories, coupled with an aggressive sales ethic, enabled Chicago Vitreous to establish important ties with architectural firms. Despite depression conditions, the fledgling business produced a small profit. In addition, Chicago Vitreous became widely known as an innovator in the field, and by the late 1930s many companies sought its services in a variety of construction projects. Architectural enamel came into widespread use in facades for commercial buildings, stores, theaters, diners, and gasoline service stations. The company’s foray into porcelain-enameled architectural elements established both its manufacturing competency and its reputation within the industry, as well as provided a commercial context for more ambitious ideas to come.

The relationship between Chicago Vitreous and the oil industry proved especially important, for it signaled the beginning of the company’s involvement in commercial structures—in this case filling stations—made entirely of porcelain-enameled steel panels hung on a steel framing structure. An important technological leap beyond products used only for facades, manufacturing filling stations forced the com-
pany to design a unified configuration of enameled steel and, more important, to
device schemes for efficient, uniform production.

Between 1938 and 1940 Chicago Vitreous contracted with several major oil
companies, including Standard Oil of Indiana, Shell, and Sacony Vacuum, to produce porce-
lain-enamed steel service stations in a variety of designs. Porcelain-enamed steel,
with its shiny, crisp look and minimal maintenance cost, met both stylistic and eco-
nomic requirements. To promote brand identification among their customers, each
oil company desired a distinctive, yet uniform style for their stations. In 1937, Chicago
Vitreous organized a subsidiary, the Porcelain Products Company, to handle the finan-
cial and organizational demands of the new endeavor.

The creation of the subsidiary also formalized the firm’s forward integration into
the construction business. Forward integration is a commonly used business tactic
to expand market applications for a core product while retaining control over raw
material costs. Other firms in the enameling industry pursued similar tactics. In part-
nership with ARMCO Steel, Ferro Corporation had sponsored the development of
a model porcelain-enamed steel house for the 1933 Century of Progress
Exhibition in Chicago. As previously noted, a number of metal firms experimented
with housing designs with varying degrees of interest and success in hopes of devel-
oping new markets to offset their depressed core businesses and absorb excess pro-
ductive capacity.

With Lusterlite Laboratories providing a technical base, the Porcelain Products
subsidiary quickly introduced several important innovations that reduced the cost
and improved the performance and attractiveness of enameled-steel buildings. First,
company engineers developed new enameling compounds that could be cured, or
adhered, to steel at lower temperatures. This enabled firing at temperatures below
the critical point at which steel would bend or distort. Additionally, the new com-
pounds proved stronger and more elastic than previous enamels and could be sprayed
onto the steel in thinner coats, significantly reducing production costs. The com-
pany also developed high-speed production machinery and set up the first assem-
ly line for enameled-steel buildings in the United States. Continual processing through
the use of mechanized conveyors, forming presses, automatic furnaces, and specialized
welding machinery provided production volumes necessary to realize economies of
scale.

Despite significant progress toward the mass production of enameled-steel build-
ings, the war delayed development of these technologies. Strandlund now saw an op-
portunity. Looking to ease the company’s reconversion and tap into postwar
opportunities in the commercial construction industry, he focused energies on renew-
ing the division’s prospects. He surveyed the industry, assessed future trends, and even-
tually presented a vision of the panels not merely as architectural adornments, but
as a structural system unto themselves. The implications were clear. Commercial buildings could be manufactured by assembling units of prefabricated porcelain-enameled steel panels. A virtually indestructible, maintenance free, and potentially elegant structure was possible. Further, by bringing more of the construction process under the control of the factory, rationalization and standardization benefits abounded. If the process could be successfully scaled up, it could have profound commercial implications. Strandlund wasted few opportunities to inform the industry of his hopes for the future of enameled-steel panel construction.

In 1945 he also patented a new method for joining enameled-steel panels. This innovation, based on interlocking U-shaped recesses at the ends of the panels, produced a tighter seal than any previous method and significantly reduced the time needed for assembly at the job site. This was the first of many technical innovations in prefabricated building technology that Strandlund devised and one that provided an important basis for commercial production of the Lustron house. At war’s end the process of reconversion to peacetime manufacture presented daunting challenges to Chicago Vitreous. Fortunately, the company had secured a contract to produce a new line of filling stations for Standard Oil of Indiana, which provided substantial up-front payments to aid Chicago Vitreous’s reconversion process. However, steel remained a controlled commodity under the authority of the Civilian Production Administration (CPA), the peacetime successor to the War Production Board.

Government Entrepreneuring

The task of petitioning the CPA for a steel allocation fell to Strandlund. Arriving in Washington in June 1946, Strandlund’s initial confidence in his ability to win the day quickly evaporated as CPA officials all but laughed in his face when he asked for a steel allocation for commercial construction. An admitted political neophyte, Strandlund confessed ignorance of potential bureaucratic roadblocks. He reported to the Hogensons that “the odds of obtaining any steel for our operations seem insurmountable.” Yet Mr. Strandlund had arrived in Washington at an opportune moment with the Truman administration in the midst of the veterans’ housing crisis—a crusade in which Strandlund was about to play a prominent role.

During one of his meetings at the Civilian Production Administration, Strandlund mentioned that Chicago Vitreous could produce prefabricated houses with the same technologies used for commercial buildings. Intrigued, CPA officials pressed him for details and suggested that he contact the NHA for assistance in formulating a business plan. Wyatt heard about Strandlund from R. Harold Denton, head of the Materials and Equipment Development Division of the NHA and personal friend of the Housing...
Expediter. Denton, a Yale-trained lawyer and an expert on housing issues, would play an important role in the Lustron saga. One of many talented young attorneys who hitched their careers to the New Deal, Denton had thought broadly and deeply about industrialized housing. His experiences at the Tennessee Valley Authority, Department of Labor, Home Loan Bank Board, and the NHA led him to embrace the belief that factory-produced housing could modernize the hidebound and inefficient residential construction industry. Denton hoped that mass production could both create and serve a new market for well-made, affordable single-family houses—just the kind of houses that the average returning veteran longed to find. In his view, the field was wide open and the time ripe for the right man with the right idea.

Strandlund and Denton met in early August to outline broad strokes. They had much in common, and Denton was immediately impressed with Strandlund. Strandlund held sway over Denton’s staff as well and spent hours discussing various aspects and implications of the proposed venture. Denton became Lustron’s most ardent advocate within the NHA, often acting as point man for the company in the bureaucratic struggles to come. Confessing his admiration for Strandlund’s idea, he noted that elements of the house could also be used in conventional housing, an application that potentially broadened the scope of the enterprise. Prospective economies of scale also attracted Denton’s interest, as well as the production flexibility inherent in the use of enameled steel, a process easily adapted to large-scale manufacture. Strandlund’s enthusiasm and energy also impressed Denton, and he told his superiors at the NHA that he believed Chicago Vitreous could begin production as early as January 1947, pending quick approval of a market guarantee and an RFC loan. Denton also promised Strandlund that the NHA would assist in obtaining a suitable production facility and mentioned the possibility of acquiring a large plant in the Chicago area from the War Assets Administration (WAA).

After the meeting Strandlund returned to his Mayflower Hotel suite and spent a sleepless night formulating preliminary production plans. If federal funds could be secured and market guarantees obtained, the government would assume most of the initial risk and he would deliver a revolutionary product. It was a winning proposition for every party—himself, his company, and the country. Perhaps his thoughts turned to the prospect of his contributions to the struggle for veterans’ housing and the praise it would engender from a grateful nation. Returning to Chicago the next day, Strandlund conferred with the Hogensons, who agreed to provide $100,000 for the design of a prototype house and the development of detailed engineering, manufacturing, and marketing plans. He also suggested that they rename the Porcelain Products Company “Lustron,” a variation of Lusterlite and a contraction of the procedure of putting “luster on” steel through the enameling process. Chicago Vitreous had used the Lustron name occasionally since 1936 and registered
the trademark in October 1937. The Lustron house owed its primary technological debt to the enameling industry, and its development evidenced an integration of advanced enameling technology, steel fabrication, and innovative architectural design.\textsuperscript{76}

With initial plans laid, Strandlund commissioned two young architects, Morris H. Beckman and Roy Burton Blass, to design a prototype house. Both had worked with Chicago Vitreous in the design of commercial buildings and were familiar with the firm’s design and production capabilities. Beckman, a 1938 graduate of the Massachusetts Institute of Technology, had achieved quick success in his field, rising to the position of chief draftsman at the internationally renowned architectural firm of Skidmore, Owings and Merrill. He had left Skidmore in 1945, and with Blass as his partner, established the firm of Beckman and Blass in the Chicago suburb of Wilmette.\textsuperscript{77}

Blass and Beckman, intrigued with the opportunity to influence postwar housing design, sought to provide a “revolutionary” vision for the postwar family. One of the strongest consumer desires reflected in contemporary housing surveys was for flexible interior designs with open spaces and multipurpose rooms. This signaled a new interpretation of domestic space, a consequence of such postwar expectations as larger, child-centered nuclear families, suburban living, and increased consumption. The architects envisioned that the Lustron house would both provide and reflect a “total approach to living” by accentuating new “domestic technologies” within an open, rambling plan that emphasized family activities.\textsuperscript{78}

Blass and Beckman chose a ranch-style house design for a number of reasons. Long associated with cost-effective construction, the ranch form was similar to the type of commercial building that Chicago Vitreous knew how to design and produce in a cost-effective manner. The simplicity of design and adaptability to a wide variety of geographic locations and lot characteristics gave the Lustron house a broad potential market as well as a visual familiarity that the architects hoped would mitigate potential negative criticism of its steel construction. The inherent efficiency of the ranch style represented modularity and modernity, a reduction of housing to its most essential features without sacrificing livability. It looked good in many orientations and could accommodate a range of interior plans in line with emerging consumer tastes.\textsuperscript{79}

A modern house for modern American families, the ranch had gained popularity among architects since the early-twentieth century due in part to the work of Irving Gill and Frank Lloyd Wright. By the 1940s the term \textit{ranch house} was familiar throughout the profession, and young architects like Blass and Beckman were intrigued with the prospect of using the ranch design to synthesize the latest in construction efficiency while meeting the needs of modern family life. For Lustron, the association of the ranch with western and especially West-Coast lifestyles evoked freedom, individualism, and an easygoing pioneerism that gave potential buyers a favorable
context in which to evaluate the house and a chance to deemphasize the standard-
ization inherent in prefabricated construction.80

The prototype design, called the “Lustron Esquire,” was a 1,025-square-foot, one-
story, two-bedroom, gabled-roof ranch with a bay window and recessed side
porch. It incorporated numerous innovations designed to appeal to postwar expec-
tations for comfort and convenience. A key element in unifying function and util-
ity with the “open space” concept was the extensive use of built-in storage,
including kitchen cabinets, bookshelves, a china closet with a pass-through feature
from the kitchen to the dining alcove, a vanity in the master bedroom, and large
closets throughout. In fact, the architects devoted over 20 percent of total wall space
to built-ins.81 Blass and Beckman also included a utility room adjacent to the kitchen
containing the furnace, water heater, and space for a freezer. The Esquire’s all-elec-
tric kitchen included a combination dishwasher/washing machine dubbed the
“Automagic.” Manufactured by the Thor Corporation, the Automagic was a true nov-
elty and excellent selling point since few homes in 1946 had dishwashers.82

Structurally, the house consisted of exterior and interior enameled-steel panels
bolted to a steel skeleton and fixed to a concrete slab foundation. Wall framing was
accomplished by joining exterior and interior metal studs with spacer plates, which
provided a thermal break for insulation. Diagonal support braces tied the system together.
The exterior contained twenty wall framing sections and ten corner assemblies. Ten trusses placed at four-foot intervals formed the roof structure. The exterior panels measured two feet square, while interior panels measured two feet wide and ran from the floor to the ceiling, except for two-foot-square panels in the bathroom and kitchen. Interestingly, interior panels were grooved to resemble wood paneling. Four-foot-square ceiling panels completed the interior. Porcelain-enamed window frames, doorjambs, gable ends (also grooved to simulate wood), gutters, soffits, and roofing tiles assured that the house would remain virtually maintenance free. The dominant feature at the front of the house was a three-piece bay window, and decorative trellises supported the corner of the recessed porch.

The Lustron prototype successfully addressed a significant shortcoming in earlier steel designs with several energy-saving features. Each exterior panel was backed by 1.5 inches of fiberglass insulation. Coupled with the thermal break between the exterior and interior walls, this design ensured sufficient heat retention to bring heating costs within conventional norms. Additionally, by attaching insulation board to the underside of the roof trusses, a plenum chamber was created between the insulation boards and the ceiling panels. An electric oil-fired forced-air furnace used the plenum chamber to create a radiant heat source for the entire house.

Displaying these innovations to best effect was an important concern, and Strandlund arranged to assemble the house on the grounds of the nearby Hinsdale Nursery in the midst of a formal garden. Careful attention to the relationship between industrialized housing and the natural environment had been a missing component in many prefabricated housing ventures. That Strandlund appreciated the connection between the two evidenced a broader view of the enterprise, though he could not have known just how crucial the issue of “proper” placement of these unusual houses would become in the future.

While the architects and Chicago Vitreous engineers reviewed the prototype and formulated production plans, Strandlund returned to Washington, his briefcase bulging with blueprints, production estimates, marketing strategies, and financial requirements for full-scale production of the Lustron house. Confirmed meetings with the CPA, Housing Expediter Wyatt, and additional officials from the NHA demonstrated serious governmental interest. Strandlund was encouraged by the prospect of federal support for Lustron and confident in his abilities to close the deal.

Lustron submitted an application to the NHA on September 23, 1946, requesting a guarantee for 30,000 houses at an F.O.B. price of $4,341 each. The price reflected the following components: $372 for labor; $2,454 for materials; $1,099 for overhead; and $454 for pretax profits. Strandlund promised to produce at least 30,000 houses by December 1947 and estimated a production rate of 400 houses per day beginning in January 1948. The figure of 400 houses per day represented the esti-
mated break-even point for Lustron. That the company could produce complete housing units as well as materials and components for other housing producers, both prefabricated and conventional, was especially attractive to the NHA. As Denton had noted, this held great potential for broad marketing.

NHA officials also noted that Lustron was prepared to begin pilot production immediately since Chicago Vitreous’s commercial building plant stood effectively idled by the lack of a steel allocation. Strandlund estimated that within a month the company could produce ten houses per day at the Cicero plant, and reported that Lustron had already arranged preliminary contracts to supply other prefab companies with porcelain-enameded roofing tiles and discussed the possibility of supplying bathroom units as well. Strandlund had also contacted several conventional builders who expressed interest in using Lustron’s steel framing system.

The next challenge facing Lustron was the acquisition of a production facility capable of supporting large-scale manufacture. Chicago Vitreous engineers estimated that the firm would need at least 2.5 million square feet of plant space to achieve the necessary economies of scale. Both Strandlund and the NHA believed that the six-million-square-foot Dodge-Chrysler plant in Chicago presented the best possibilities. Located only four miles from Chicago Vitreous, its proximity meant that engineers and technicians could supervise Lustron’s operations during the crucial startup phase. Further, since Chicago Vitreous planned to supply the majority of Lustron’s frit requirements, shipping costs of the bulky material would be significantly reduced. An important center of the enameling industry, the Chicago area also promised an ample supply of experienced labor. Strandlund estimated that the venture would require at least 20,000 employees for full production. Ready access to raw materials, as well as ease of distribution, would also be guaranteed by the location’s existing rail facilities. Lustron’s manufacturing operations required unobstructed floor space for the assembly line, high ceilings to accommodate huge enameling furnaces, and fireproof construction. The Dodge-Chrysler plant met each of these criteria.

During the war the Dodge-Chrysler plant had produced B-29 aircraft engines with the aid of approximately $171 million in federal subsidies. Declared a surplus facility at the end of the war, the War Assets Administration sought companies that would use it “to the best interests of the Government and the American people.” What could be more important than housing? The answer, in true American fashion, appeared to be automobiles. Another capitalist with big ideas, dreams, and ambitions—Preston Tucker—also had designs on the facility. Throughout the summer of 1946, the RFC and the WAA had been negotiating with Tucker, who wanted the Dodge-Chrysler plant to manufacture the innovative Tucker Torpedo. NHA officials and Housing Expediter Wyatt remained optimistic about acquiring the plant because they believed that the RFC and the WAA would consider housing a greater national priority than automobiles and
because it seemed unlikely that Tucker could raise over $15 million in private capital to fulfill his responsibility under a preliminary lease agreement signed in July.91

Yet this was far from ideal, since it limited space for future expansion. As a hedge, the NHA and Strandlund decided to earmark surplus war plants used by aircraft manufacturer Curtiss-Wright in Cincinnati and Columbus, Ohio, two of fifty surplus plants promised by the WAA for conversion to housing manufacture. At five million square feet and three million square feet respectively, the plants offered sufficient capacity and access to equally sophisticated labor markets.92

Obtaining a suitable plant represented only a part of the startup process. Equipping it with the necessary machinery presented equally formidable obstacles. Strandlund estimated a cost of approximately $22 million and requested that the Defense Plant Corporation, a subsidiary of the Office of War Mobilization and Reconversion, purchase the machinery and lease it to Lustron with an option to buy. This was an extension of the typical agreement used by the government during the war to encourage conversion to defense manufacture. However, such an arrangement would require the approval of the RFC as guarantor of the loan. Denton urged the NHA to assist Lustron in securing RFC approval.93 The matter of preproduction expenses also caused concern. Estimates for engineering, construction, and organization of the plant totaled approximately $10 million for the period from November 1946 to July 1947. Lustron hoped for a series of advance payments from the RFC, though NHA officials realized the prospects for quick action from the RFC were dim. Private financing would have to carry the load until government funding could be secured.94

Indeed, by September 1946, Chicago Vitreous had already invested over $500,000 in the development of the prototype, including preparation of dies and equipment for the production of ten houses per day. Strandlund, Emanuel Hogenson, and William Hogenson had also invested approximately $100,000 of their personal funds in Lustron, of which $36,000 remained in the account. The $36,000 figure is significant, for as the venture made its way through the bureaucratic maze, opponents seized on the number, claiming it represented the total equity value of corporate and personal investment in Lustron.95

With production and financial plans progressing, the approval of a market guarantee represented a vital first step in securing the government’s participation in the mass production of Lustron houses. The favorable assessment of James L. Pease, director of the Prefabrication Production Branch of the NHA, was crucial. Reviewing all aspects of Lustron’s business plan, Pease concluded in mid-October 1946 that the firm had “demonstrated its ability to produce houses at the proposed rates.”96 The company’s intention to manufacture or furnish all components of the house except the glass for windows and the stove and refrigerator especially impressed Pease. He also noted that Chicago Vitreous’s ongoing research and production expertise had resulted in lowering the price
of enameled-steel construction to the point of commercial viability in the housing market. Lustron, Pease asserted, represented the “best bet” in the field.97

However, the company’s marketing plan raised serious questions and became one of the greatest unknowns of the entire venture. Strandlund’s initial marketing program included a national distribution network, sales promotion campaigns, and a system for closing sales and monitoring the erection of houses on the local level. The company would assign an exclusive dealer to each city with a population over 50,000, assuring at least 600 dealers to start. Using the automotive industry as a model, Lustron dealers would be organized into ten regional offices intended to enforce administrative control from the central office. A promotional budget of at least $200,000 would be used for an advertising campaign focusing on such national weekly magazines as *Life*, *Look*, *Better Homes and Gardens*, and *Collier’s*. Lustron would not have to start from scratch, since key personnel from Chicago Vitreous could guide the formation of Lustron’s sales and distribution systems in the initial stages.98

The relationship between the company and its dealers was intended to provide mutual financial and operating advantages, with the ultimate goal of introducing the Lustron house into conventional residential areas. Here Lustron would face numerous obstacles. Key factors included the lack of experience in the field of domestic real estate, the sheer novelty of a house made from porcelain-enamed steel, and an initial lack of understanding of the complex financial arrangements inherent in marketing prefabricated houses.99

Strandlund intended to reinforce the dealer relationship by training “house erection teams” that would remain on call to assist dealers and customers during the assembly phase. Additionally, he contacted a number of large-scale suburban developers across the nation to arrange volume discounts. This strategy was intended to serve the dual purpose of guaranteeing the sale of Lustron’s initial output, as well as to ease the transition of the house into conventional and suitably zoned suburban settings. As Pease observed, the firm seemed able to “nurse along the new venture during the critical first months when this new product will have to prove its worth.”100

Ominously, though, Pease cautioned that the unprecedented volume of production would have to be matched by an equally unprecedented commitment to service on the local level. Other potential problems at this level included the attitude of local labor organizations, contractors, and building code compliance officials. Nevertheless, Pease recommended that the NHA enter into negotiations with Lustron, but only for an initial market guarantee of 15,000 units, half the original request. Although disappointed, Strandlund understood the bureaucratic prudence and remained confident that the various roadblocks could eventually be resolved. After all, during the war, he had brought Chicago Vitreous’s tank turret business up to full production from scratch in less than three months.101
Allies, Enemies, and a New Start

Indeed, by October 1946, Lustron’s future appeared bright. Press reports about its plans elicited favorable responses, especially from veterans’ organizations. Wilson Wyatt, fearing a loss of momentum in the VEHP, had consistently urged veterans to use their political influence to encourage government aid for the immediate production of prefabricated houses. With Lustron facing a major hurdle in securing RFC financing, the Housing Expediter issued a rallying cry. Following Wyatt’s lead, Omar Ketchum, director of the National Legislative Service of the Veterans of Foreign Wars, appealed to the RFC: “Veterans of the nation have waited for many months for a solution to the acute housing shortage. We believe that the only solution is through mass production.” Ketchum urged the RFC to provide 100-percent-guaranteed loans for prefabricated housing as they did for defense production during the war. “If we can start companies, such as the Lustron Corporation of Chicago . . . the problem of price will be solved and the VEHP saved,” he wrote.102

Buoyed by the support of the VFW, on October 22 Wyatt submitted an application to the RFC for a $52 million loan for Lustron, a step that initiated a serious political struggle between Wyatt and the RFC over Lustron’s future. The struggle also reflected a larger controversy over the direction, and indeed continued existence, of the VEHP. Wyatt had essentially bet his job on the quick development of prefabricated housing, and he was prepared to use all of his official powers and political skill to convince the RFC to finance this strategy.103

George Allen, a director of the RFC and close friend of President Truman, handled Wyatt’s request. A fiscal conservative and influential member of the board, Allen advanced a number of ideological and political objections that resulted in the rejection of the application on October 31. The RFC’s opposition centered on the “appalling” ratio of invested capital in Lustron in relation to the $52 million request. The RFC based its analysis on an equity figure of $36,000, the amount remaining in the Strandlund/Hogenson personal investment account, and discounted or ignored nearly $500,000 of total investment capital provided by Chicago Vitreous and the three men. Naturally, any prudent loan officer would agree that an equity ratio representing 7/100ths of 1 percent of total debt should merit rejection. As RFC Chairman Charles B. Henderson observed, “if the enterprise were unsuccessful, substantially all of the risk and loss would fall on the Government whereas if the enterprise were successful the profits to the owners would be enormous and out of all relationship to their investment or risk.” If Lustron met its production estimates for 1947, Henderson calculated that Strandlund and the Hogensons could reap a 14,000 percent return on investment.104
Without a profit-sharing arrangement, Henderson argued, the loan was actually a grant or a subsidy. The RFC simply could not legally offer grants to industry, nor would it welcome the inevitable scrutiny such an arrangement would elicit. Clearly, the equity situation offended the political sensibilities of a majority of its directors. Further, the RFC interpreted the powers of the VEHP narrowly, insisting that the only authorized measures were premium payments to stimulate the production of building materials in short supply and guaranteed market contracts for prefabricated houses. This implied that Wyatt could ask, but could not force, the RFC to provide loans for prefabricated housing ventures. Henderson attempted conciliation by assuring Wyatt that the rejection “in no way reflects any lack of understanding or appreciation of the importance of the VEHP, nor does it preclude consideration of subsequent applications from Lustron or others.”

Wyatt, frustrated by the RFC’s action, responded on November 1 in a letter to Henderson that emphasized the need for immediate action to ease the housing crisis. “We do not feel that the failure of any company to meet any particular ratio of equity capital should be a basis for declining a loan application for a sound house or new type of material that is needed as part of the VEHP,” Wyatt wrote. Challenging the RFC’s low estimate of Lustron’s equity capital, he asserted that the firm actually possessed approximately $5.7 million in equity contributions, including $500,000 in prototype development costs; $5 million for patent rights; $200,000 for machinery, tools, and dies; as well as the $36,000 in the Strandlund/Hogenson private investment account.

Wyatt then presented several alternatives to encourage the RFC to reconsider the loan. First, he proposed a joint financing arrangement by which a group of Chicago banks would provide $20 million, an arrangement that would raise Lustron’s equity contribution to $25.7 million against the $52 million request. Next, Wyatt reminded Henderson of his power to impose “appropriate conditions” on any loan agreement to assure that the purposes of the VEHP would be “fully accomplished.” In the case of a firm with little or no equity, such conditions included limiting the amount of profit earned or dividends paid in order to accelerate repayment of the loan; limiting executive salaries; or limiting depreciation allowances for capital equipment. In fact, Wyatt claimed, Carl Strandlund had already agreed that Lustron would not keep any profits or advance any dividends to investors until the entire amount of the RFC debt was retired. Certainly this would assuage any fears regarding Lustron’s potential for quick profit at government expense. In a conciliatory yet firm tone, Wyatt cautioned the RFC Chairman against obstructing the VEHP: “We feel that [these conditions] meet the objection raised and make possible the accomplishment of our paramount objective which is to enable [Lustron] to get into production and make its vitally needed contribution toward the alleviation of the housing emergency.”
The Housing Expediter also enlisted his allies at the VFW in the campaign against the RFC. On November 13, 1946, representatives of the organization presented a letter from VFW Commander-in-Chief Louis E. Starr to President Truman and issued a press release calling on the president to “use his full authority to assure Wilson W. Wyatt the cooperation of every governmental agency.” In his appeal to Truman, Starr bemoaned the apparent lack of support for the VEHP “promised by government agencies who were supposed to be our allies.” Specifically blaming the RFC, he noted that Wyatt’s commitment to prefabrication was the only hope to provide veterans with affordable housing in the least amount of time possible.

Lustron soon had another resource to leverage in its quest for federal support. By mid-November, the prototype house was complete and ready for public inspection. This proved extremely important, since Strandlund could now invite interest groups, key politicians, and the general public to “see for themselves” the promise of Lustron. He carefully orchestrated Wyatt’s visit, and Wyatt left Chicago “very impressed,” noting that “it measured beyond our expectations.” The guest book soon bulged with glowing comments and purchase offers. The house also received favorable reviews from the local and national press, with several articles commenting that the promise of prefabrication had finally been fulfilled.

Strandlund made sure that major veterans’ groups received special tours. Representatives from the VFW, the American Legion, and AMVETS soon offered their endorsement, stating that “it met the veterans’ needs ideally.” In an astute public relations move, Strandlund offered to sell the house to Elmer R. Theidel, a recently married Navy veteran. Waving happily to America from the porch of the “Esquire,” the Theidels represented the very definition of the postwar domestic ideal—an image the national press devoured.

Concurrent with the struggle to obtain RFC financing, Wyatt and Strandlund faced a flare-up in their battle with the WAA and Preston Tucker over the acquisition of the Dodge-Chrysler plant for Lustron. Both Wyatt and Strandlund believed that the company could begin production more rapidly at this plant than at any other. Time was a crucial consideration for Wyatt. Consequently, he resolved “to go to the mat” to secure the facility, using his powers under the Veterans’ Emergency Housing Act freely if necessary.

In Wyatt’s opinion, awarding one of the largest plants in the world to Tucker was absurd. Raw material and parts shortages, not plant capacity, represented the principal factors limiting the production of automobiles. Nevertheless, Tucker and the WAA had forged a good working relationship, and WAA officials soon adopted a defensive stance against the Housing Expediter. Each party also tapped into the Washington grapevine as much as possible for information about the potential responses of the RFC, which held the future of both enterprises in its control.
Negotiations between the Office of the Housing Expediter and the WAA began on September 11, 1946. On that date Strandlund contacted Wyatt and formally requested that the plant be “frozen” for Lustron’s use. He indicated that the Chicago Tribune had reported the previous day that the WAA had given the Tucker Corporation ten days to meet the $15 million private capital requirement under their preliminary lease agreement signed in July. Wyatt immediately contacted the WAA regarding the status of the plant, and it informed him that “Tucker had the plant but was experiencing difficulties with financing and that there was always a remote possibility that the deal would fall through.” In view of the preliminary stages of the NHA’s negotiations with Lustron and because the WAA seemed committed to Tucker, Wyatt did not invoke his power to freeze the plant.114

With the plant controversy at a standstill, an embattled Wyatt sought public forums to present his point of view on the RFC loan for Lustron and the future of the VEHP. The ideological and political climate of the nation undermined his efforts. A cornerstone of the VEHP was the continuation of price controls and production and allocation restrictions on building materials. Yet the American public longed for an end to wartime controls and a return to normal economic life. The electorate expressed such desires on Election Day, giving the Republicans control of both houses of Congress.

Responding to the election results, facing pressures from fiscal conservatives within the administration, and fulfilling his promise to end controls as soon as possible, Truman abolished most price controls, including those on construction materials, on November 9. Unless he also lifted controls on the price of new homes quickly thereafter, construction materials would inevitably flow into commercial markets.115 Wyatt of course realized that Truman’s actions effectively curtailed the VEHP. The absence of price controls, Wyatt lamented, “would mean inevitably that the Veterans’ Emergency Housing Program, as now planned, would be unattainable.” Truman’s message ending controls also contained an ominous note: “The removal of price ceilings on building materials will obviously necessitate a change in approach to some of the problems in the housing program.” The Housing Expediter recognized that he probably was not part of the “change in approach” to which Truman referred.116

Wyatt immediately responded to the assault on the VEHP. He appealed to the nation in a radio speech over the Mutual Network on November 14, warning of the “grave danger” of removing controls and predicting that few veterans would be buying houses in 1947. The public responded indifferently to his message, which disappointed Wyatt. Yet he understood their skepticism about further appeals when all they wanted was affordable housing as soon as possible.117 Nevertheless, Wyatt pressed forward as he testified before a Senate subcommittee investigating national defense issues on November 25. He presented an eloquent defense of the VEHP, leveled harsh criticism at the recalcitrant RFC, and issued a plea for congressional support of the
prefabricated housing industry. “These are not ordinary times,” Wyatt entreated, “the need of veterans for homes is not an ordinary need; it is a desperate need. To enable private enterprise to meet this need, the government must assume the financial risk. Banking as usual begets business as usual. Neither is enough to meet the housing emergency.”

Wyatt also complained that the controversy over the Lustron loan was clouding the larger issue of support for other types of prefabricated construction, such as stressed-skin plywood panels, metal-covered plywood, concrete, and aluminum. The RFC’s stance, he added, had also impacted manufacturers of both new and conventional types of building materials, such as gypsum board and substitutes for hardwood flooring. “Conventional homebuilders are being hurt by the same inaction that is delaying the production of industrialized homes,” Wyatt argued.

Finally, on November 27, Wyatt presented his VEHP forecast for 1947 to President Truman, along with a statement threatening resignation if the president did not accept its terms. Wyatt called both for the continuation of the price ceiling on new houses and for up to 100-percent-guaranteed government financing for prefabricators—politically unrealistic requests that reflected Wyatt’s despair. During the last week of November, Truman summoned Wyatt and George Allen to the White House several times in an attempt to resolve the matter. “We are in complete disagreement,” Wyatt and Allen told the press. Publicly, Truman remained significantly silent and left Washington for a short vacation.

Wyatt resigned on December 3, offering a tersely worded letter that failed to thank the president for his assistance. The following day Truman accepted Wyatt’s resignation and expressed gratitude for his “outstanding” efforts on behalf of the nation’s veterans. The VEHP was dead, and within a week Truman removed the $10,000 ceiling on new house prices and announced a relaxation of rent controls. Clearly, Truman believed that the VEHP was no longer compatible with an expanding peacetime economy or with the public’s desire to end all wartime controls.

Wyatt’s resignation placed the Lustron experiment in serious jeopardy. Strandlund issued a press release on December 6 reiterating his commitment to the project and maintaining the necessity of some form of government financing to help Lustron begin production. However, Strandlund also offered a key compromise. He announced that Lustron would be willing “to operate on a scaled down basis,” which would “reduce our requirement for assistance accordingly.” Here was the genesis of the strategy that ultimately influenced the RFC to reconsider financing the venture. “We are anxious to cooperate on any basis which will make possible the production of Lustron homes,” Strandlund asserted. Additionally, he offered to drop the request for the Dodge-Chrysler plant in favor of obtaining a smaller facility, such as one of the Curtiss-Wright plants in Cincinnati or Columbus. Abandoning the original production estimate of 400 houses...
per day, Strandlund announced that “the new scaled down Lustron program” would initially produce 100 houses per day and require approximately $16 million in government financing rather than the original request for $52 million.123

The potential for reconsideration by the RFC greatly increased with the resignation of George Allen from its board in mid-December. Exploiting this opportunity, newly appointed Housing Expediter Frank R. Creedon aided Strandlund in the preparation of an application to the RFC for a $15.5 million loan and indicated that the NHA would support a market guarantee for 15,000 homes during 1947. RFC chairman John D. Goodloe received the application on January 17, 1947, and prudently called for a full audit of Lustron’s plans by the New York consulting engineering firm Stone & Webster. Goodloe evidently did not expect a favorable report, but Stone & Webster conferred its blessing on the enterprise, praising Lustron’s technical resources and manufacturing expertise.124

Proceeding cautiously, Goodloe insisted on attaching several conditions to the loan agreement. Before receiving any federal money, Lustron had to raise $3.5 million in private capital. The RFC also sought the personal guarantee of the Hogensons and Strandlund and a commitment from Chicago Vitreous to support Lustron during the startup phase. With all parties agreeable to these terms, Strandlund sought the aid of the Chicago brokerage house of Hornblower and Weeks to arrange a stock offering.125

However, negative publicity surrounding Lustron’s original loan request, the resignation of Wyatt, and Truman’s removal of price controls created a soft market for Lustron stock. Despite Strandlund’s contention that “by the third quarter of 1947, Lustron will be shipping 100 houses a day, 2,500 a month, 30,000 a year,” investors, especially venture capital firms, remained wary. Despite intense advocacy, by the end of April Hornblower and Weeks had raised only $840,000. The majority of subscribers represented Lustron’s potential suppliers, including several steel firms and appliance manufacturers.126

At this point Strandlund had only one option—attempt to renegotiate the loan agreement. Given Lustron’s rocky history with the RFC, Strandlund would need all of his sales abilities to convince the agency to increase their participation in the loan from roughly 80 percent to nearly 95 percent. The RFC had only agreed to such a high level of participation in loans made to manufacturers of products critical to the war effort. Sensing political disaster, Goodloe bluntly informed Strandlund that unless he could produce “unmistakable evidence” of congressional and presidential support, the loan could not be made.127

When Carl Strandlund arrived in Washington during the summer of 1946, he admitted that he did not even know the name of his Chicago alderman, let alone his congressman. He had undoubtedly acquired a good measure of political savvy since, but...
without powerful advocates on Capitol Hill and in the Truman administration the chances of saving the loan appeared bleak. However, Lustron retained the support of the major veterans’ organizations, and their lobbyists offered to guide him through the political jungle once again. Then, as Strandlund was packing his suitcase, perhaps to leave Washington for good, the phone rang. It was Louis Starr, who informed him that the VFW had arranged appointments with a number of influential congressmen. The future of Lustron now rested on Strandlund’s ability to win friends and influence people, skills he assuredly possessed.