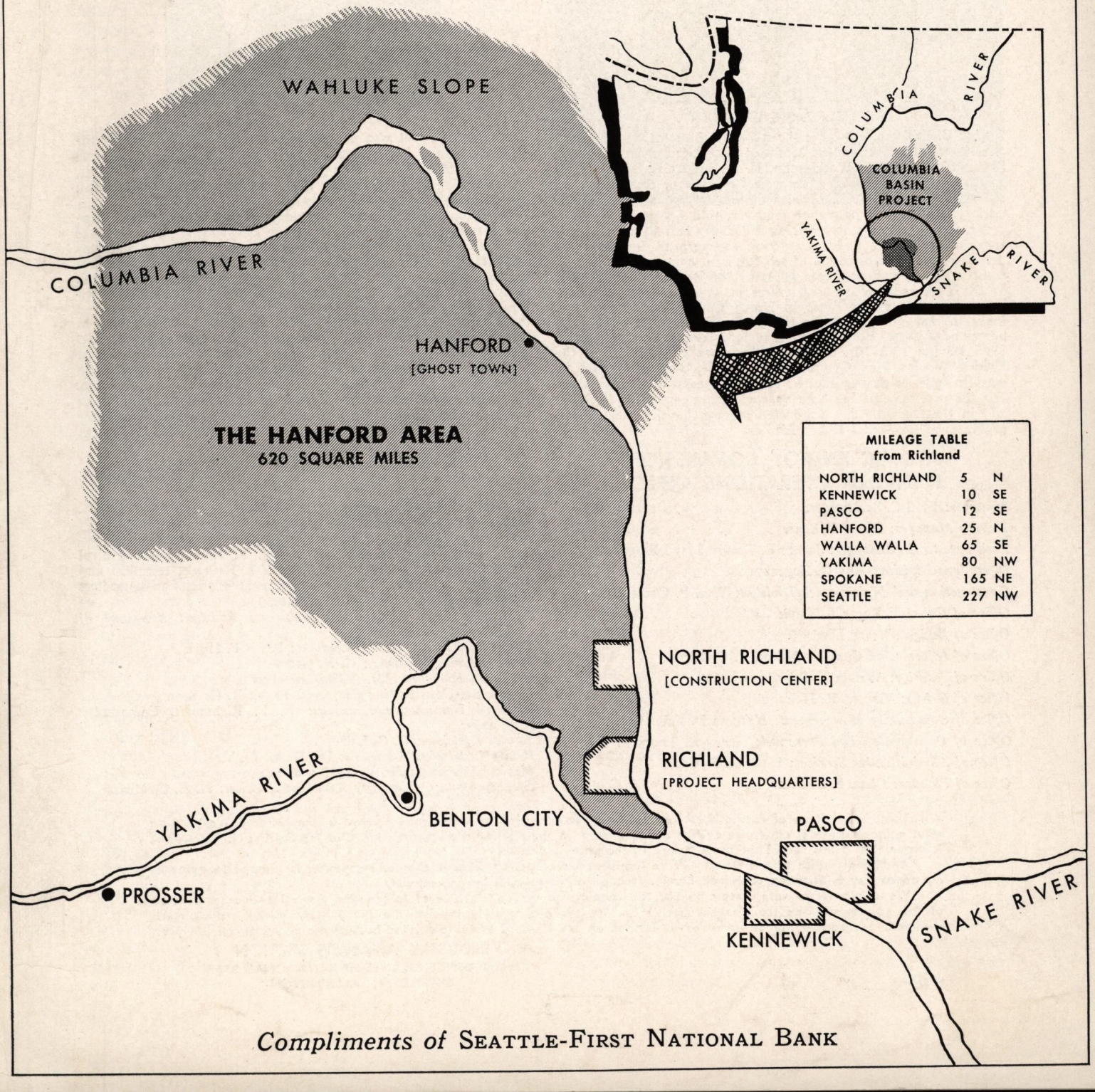
PACIFIC NORTHWEST INDUSTRIES

SEATTLE-FIRST NATIONAL BANK

DECEMBER • 1948

THE HANFORD WORKS



MILEAGE TABLE
from Richland

NORTH RICHLAND	5	N
KENNEWICK	10	SE
PASCO	12	SE
HANFORD	25	N
WALLA WALLA	65	SE
YAKIMA	80	NW
SPOKANE	165	NE
SEATTLE	227	NW

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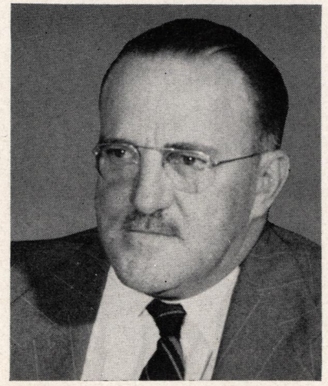
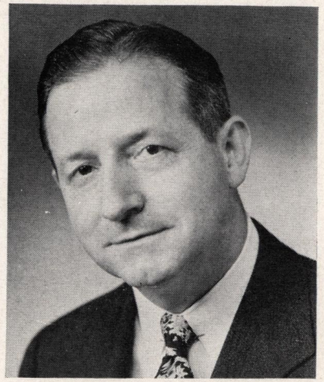
THE MEN WHO DIRECT HANFORD



FRED C. SCHLEMMER

Fred C. Schlemmer became the second civilian manager of Hanford Operations Office on September 15, 1948, succeeding Carleton Shugg who moved to Washington, D. C., as Deputy Manager for AEC. Prior to Mr. Shugg there were two military commanders of the operation, Col. F. T. Mattias during the war and Col. Frederick J. Clarke, the peacetime manager until September 1, 1947.

Mr. Schlemmer, a native of New York, has had 30 years experience in engineering and construction management including the organization and supervision of self-sufficient communities at large construction operations. From 1933 to 1946 he was a key member of the TVA construction staff where he supervised the construction of several major dams in North Carolina and Tennessee. Prior to that he worked for the J. G. White Engineering Corporation of New York on various industrial construction jobs. Since leaving TVA Mr. Schlemmer has been an executive of the Peerless Woolen Mills Company of Rossville, Georgia. In 1946 he went to India as a consultant on the development of river systems. For the past year he has been an engineering consultant for AEC and in that capacity has conducted surveys for the construction programs at Hanford and Los Alamos.



GEORGE R. PROUT

George R. Prout was named Assistant General Manager of the G.E. Nucleonics Department effective November 1, 1948. He will become General Manager on January 1, succeeding Roy C. Muir, who returned from retirement last April to head the department. Mr. Muir will continue as a consultant.

Mr. Prout has been a vice-president of the company and General Manager of the Air Conditioning Department since 1944. He has been associated with the General Electric Company since his student days, when he enrolled in the M.I.T.-G.E. Cooperative Course for student engineers in 1920. Subsequently he served the company in various capacities in the Southwest where he established a reputation in the petroleum industry. In 1929 he received the Charles A. Coffin Award for his engineering contributions in the application of electrical equipment to oil pipe line pumping. Later he became District Manager of the Industrial Department of G. E.'s Southwestern District, and in 1939 was transferred to Schenectady as Sales Manager of the Industrial Control Division. He became manager of this division in 1941. Subsequently, when the Air Conditioning Department was established, he became General Manager with headquarters in Bloomfield, N. J.

ATOMIC ENERGY COMMISSION
HANFORD OPERATIONS OFFICE

Manager: Fred C. Schlemmer.
Deputy Manager: David F. Shaw
Assistants to the Manager: James E. Travis, Lloyd Bergeson
Operations Division: Roy C. Hageman
Construction and Maintenance Division: Wm. P. Cornelius
Office of Counsel: Roger I. Harris
Office of Budget: Verne Lewis
Office of Information Control: Milton R. Cydell
Office of Security: Vernon K. Schumann
Office of Safety: Vincent R. Holmquist
Office of Community Management: Norman D. Fuller
Office of Organization and Personnel: Henry E. Thurston
Office of Administrative Services: Rudolph Hoglund
Office of Finance: Chas. F. Schank

GENERAL ELECTRIC COMPANY
NUCLEONICS DEPARTMENT

V. Pres. and General Manager: R. C. Muir, April 8, 1948-Dec 31, 1948. George R. Prout, Jan. 1, 1949-
Assistant Manager: R. S. Neblett (Schenectady operations)
Assistants to the General Manager: J. R. Rue, expense control and budgetary matters; Dr. Winton I. Patnode, technical and educational matters; G. G. Lail, general administrative matters (also manager of the service divisions)
Nucleonics Dept. Comptroller (also an Assistant Secretary of G.E.): Forrest E. Baker
Counsel for Nucleonics Department: Lewis F. Huck
Manufacturing Divisions: C. N. Gross
Technical Divisions: Dr. A. B. Greninger
Design and Construction Divisions: Frank R. Creedon
Richland Community Divisions: E. L. Richmond, Community Manager
Service Divisions: G. G. Lail
Health Instrument Divisions: Dr. H. M. Parker
Medical Divisions: Dr. W. D. Norwood
Employee and Community Relations Division: H. E. Callahan

This special issue of Pacific Northwest Industries is prompted by widespread interest in the Hanford Works, both as a unique industrial enterprise and as a major factor in the Northwest's economic life. The Seattle-First National Bank is proud that it has served the project since its inception.

Additional copies of this report will be furnished upon request without charge. Permission is granted to quote or reproduce any information contained herein. Mention of source will be appreciated.

We acknowledge with sincere thanks the cooperation of AEC's Office of Information Control and other officials of the government and the General Electric Co. We are also greatly indebted to the Tri-City Herald, which made available a complete file of its series of articles on the Hanford Works published in August and September this year.

INDUSTRY ANALYSIS SECTION
MAIN OFFICE, SEATTLE-FIRST NATIONAL BANK
SEATTLE 14, WASHINGTON

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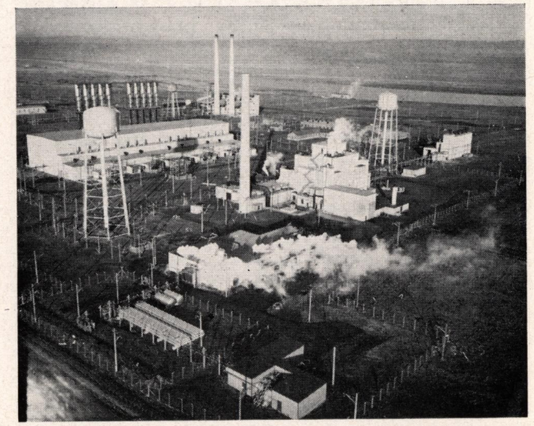
THE HANFORD WORKS

Hanford Works is one of the biggest things in the Northwest. Here in the desert of Southeastern Washington Uncle Sam during the war invested $350 million in the world's first plants for the manufacture of plutonium. Currently additional funds in the neighborhood of $20 million a month are being poured into a program of expansion and renovation which will bring the total investment by 1952 or 1953 close to a billion dollars. Almost 9,000 workers are employed by the General Electric Company in operating the plants, supervising construction and running the City of Richland for the government. Sub-contractors are employing another 16-, 000 on construction.



The Heart of Hanford Works—one of the plants

A Major Northwest Industry

Quite apart from the national and international significance of the product, this development, by its very size, is of major importance to the region. Here is the Northwest's second largest payroll; the largest, if the current construction program is included. Here is an industry which ranks with such other major industries as light metals and plywood in its importance to the Northwest's economy. Here is a new market—one of the state's largest—created by the new city of Richland and the rapid growth of Pasco and Kennewick. Indeed, the entire Northwest would have an interest in a project of this size, whether the product was plutonium or pretzels. It is well to take a good look at Hanford Works, not only to satisfy our curiosity, but also to gauge its long-range effect on Northwest business.

Nature of Activity

What goes on at Hanford Works? To some extent, the notion still prevails that the entire affair is secret. On the contrary, such general items as employment, organization, and community development are public information. Even with regard to the industrial processes, we now can learn as much as most of us are able to understand.

Hanford Works is one of three major installations of the atomic energy program. The other two are at Oak Ridge, Tennessee, and Los Alamos, New Mexico. Hanford does not make bombs. It produces plutonium, a radio-active element which is basic both to bombs and to other applications of atomic energy. The raw material is uranium, and the production process subjects uranium to atomic bombardment in a "pile." The second installation—Oak Ridge—is devoted to separating the U-235 isotope from U-238, using an entirely different process, a process of "gaseous diffusion." The third, Los Alamos, is the home of the atomic bomb, the place where materials produced at Hanford and Oak Ridge are utilized in the atomic weapon program. Of the three installations, Hanford and Oak Ridge are about equal in size, Los Alamos a good deal smaller. Hanford now has more than one-fourth of all employees engaged in atomic energy operations and two-thirds of those engaged in construction.

More About Atomic Energy

In addition to these three major installations, the total program includes laboratories at Chicago (The Argonne National Laboratories), at Patchogue, Long Island (The Brookhaven National Laboratories), and at Schenectady (The Knolls Atomic Power Laboratories). Oak Ridge and Los Alamos also have important laboratories but research at Hanford is limited largely to improvements in the production process. The Schenectady laboratories —because they, like Hanford, are run by the G. E. Company—are administratively part of the Hanford Works. Their purpose is research in peacetime applications of atomic power.

All of these installations are under the direction of the Atomic Energy Commission, the civilian agency which was created by the Atomic Energy Act of 1946 and took over from the Manhattan District of the Army Engineers at the beginning of 1947. The Commission itself consists of five men chaired by David Lilienthal. In Washington, D. C., the Commission has a general manager, 38-year-old Carroll Wilson, and a relatively small staff. Under civilian control the program has been decentralized to the extent that the managers of installations like Hanford can make decisions involving millions of dollars.

The Commission carries on its operations through contractors. At Hanford the General Electric Company is the prime contractor for all activities—construction, operations, and services. At Los Alamos the University of California is the contractor for scientific work, but the management of the construction program and the town is contracted to a local concern, the Zia Company. The major contractor at Oak Ridge is the Carbide and Carbon Chemicals Company, a subsidiary of Union Carbide and Carbon.

Agreement with General Electric

The agreement between AEC and the General Electric Company is a document comprising 68 pages plus amendments and appendices. In essence, it provides for management of this huge enterprise by G. E. on a cost-plus basis with a return to the company of exactly one dollar. The du Pont Company, which handled the development of the project during the war, operated on the same basis. All new discoveries are reported to the Commission and, under the terms of the law, become the property of the government. The Commission itself has less than 400 employees at Hanford Works. All construction contractors and all commercial enterprises in the area do business with G. E. rather than directly with the government.

Physical Lay-Out

Physically Hanford Works is scattered over 396,000 acres or 620 square miles. Richland, the city of 20,000 created out of nothing to serve the project, is at the Southeast corner of this area, near the junction of the Yakima and Columbia Rivers. The plants, of which there are several, are located as much as 35 or 40 miles from Richland. Of the entire project area, some 79,000 acres were public domain before the war. Another 127,000 have been purchased outright, and the remaining 190,000 are leased. The Government is now engaged in purchasing the leased land in order to establish permanent boundaries.

Most of this land was and still is desert. The government's holdings include, however, 50,000 acres of the Wahluke Slope scheduled for irrigation as part of the Columbia Basin Project. The precise permanent boundaries of the Hanford reservation have not been fixed in this area, but it is likely that AEC will retain the 50,000 acres and further request that the development of the entire Wahluke Slope be delayed indefinitely. The Slope in its entirety comprises 238,000 acres, including 156,000 irrigable which are 15% of the entire Basin Project.

In addition to Richland, the Hanford area includes two other towns whose names have been associated with the development. The first is Hanford, which is some 25 miles up the Columbia River from Richland. During the war Hanford was the headquarters of the vast construction program and reached a population of 51,000 late in 1944. Today it has been completely evacuated and its buildings, all temporary, have been removed for other uses. The second town is North Richland, which is the headquarters of the present construction program. North Richland is five miles north of Richland and has a population of 13,500. The town consists of dormitory and barracks accommodations for 6,000 persons, 2,200 trailer shelters occupied by privately-owned trailers, and 200 pre-fabricated houses, the latter for the families of supervisory personnel. The one-story barracks were moved from Hanford, the two-story barracks and a hospital from the Pasco Naval Air Station, and the 200 houses from a project near Bremerton. North Richland has a certain life of four or five years, the duration of the present construction program. It probably will continue beyond that period, since permanent construction activity of some magnitude is more than likely.

Current Expansion Program

Currently the construction program at Richland includes 1,000 new homes, enlargement of the high school, a junior high, two grade schools (one of them at North Richland), and enlargement of three other grade schools. In addition, sites are being prepared for new central and residential business districts which will include 94 facilities. These things can be seen by anyone. The largest part of the construction activity, however, is within the barricaded area where the plants are located. Part of this activity involves entirely new facilities; part is directed to adapting the original plants to the latest developments in atomic research. This is a program of several years duration. Meanwhile, Richland will become a city of 25,000 population by next summer and may grow somewhat beyond that. North Richland, the construction town, will remain at approximately its present size throughout the plant construction program, since every effort is being made to avoid peaks and valleys of employment.

History of the Project

The history of Hanford Works is highlighted by the following events:

December, 1942—Site Selection.

Hanford was selected primarily for four reasons: (1) Isolation, (2) Small number of residents to be displaced, (3) Electric power supply, and (4) Availability of cold water. Hanford Works has pumping facilities adequate to furnish water for a city the size of New York. The power consumption still is restricted information.

March, 1943—Ground broken.

By this time the difficult task of land acquisition was sufficiently advanced to permit the start of construction. The project at this time and throughout the war was under the direction of the Manhattan District of the Army Engineers and was contracted to E. I. du Pont de Nemours and Company.

November, 1944—Peak of construction; first operations.

Hanford had grown from a town of 500 to 51,000; the project was employing 45,000 workers. At about this same time the first atomic pile was placed in operation.

August, 1945—Hiroshima and Nagasaki; end of the war.

The first use of the atomic bomb removed the veil of secrecy from Hanford. Until this time practically none of the workers, even in the plant area, had any idea what product was being manufactured.

August, 1946—Atomic Energy Act passed.

Congress made the decision for civilian control and created the AEC as the administrative agency. This was followed by the lengthy controversy over confirmation of Lilienthal which delayed the actual transfer of authority to the Commission.

September, 1946—G. E. replaced du Pont as prime contractor.

Du Pont had requested release from this responsibility after the war since its interest is not primarily in the field of nucleonics. G. E. was selected because of its outstanding work in this field.

January, 1947—AEC replaced Manhattan Engineers.

Officially, the AEC took over at midnight, December 31, 1946. Carleton Shugg, the first civilian manager, was not appointed until September, however. Under civilian control the name was changed from Hanford Engineer Works to Hanford Works.

August, 1947—Expansion program announced.

AEC announced the program of expansion which is now in progress. Richland at that time had a population of 15,000 or 16,000.

Organization—AEC and G. E.

In large part the AEC organization at Hanford is merely representing the interest of the government in matters which have been contracted to G. E. This requires very little staff, but staff of high calibre. In certain matters, however, AEC has primary responsibility. These include security, acquisition of land, administration of several outside contracts, and relationships with local governmental units.

The Commission staff is small relative to the size of the project—less than 400 altogether. Only a handful of scientists are required directly on the government payroll. The top men represent a variety of backgrounds in government and private employment.

In the G. E. organization, the Hanford operation is known as the Nucleonics Department, one of eleven major departments in the company headed by a vice-president and general manager. Several of the leading scientists and, of course, practically all of the lesser personnel, were taken over from the du Pont staff which developed the project during the war.

Until recently the government has barred collective bargaining in the operation of the project by an agreement with NLRB not to hold union elections. This policy has been rescinded, and currently the A. F. of L. is engaged in organizing project workers.

Sub-Contractors

Dozens of sub-contractors and sub-sub-contractors contribute to the total of 16,000 construction workers in the Hanford area. The largest are Atkinson-Jones, which has the major contract in the plant area; and Nettleton-Baldwin-Anderson and Sound Construction Company, a combination which is building 1,000 ranch-type houses in Richland. Atkinson-Jones is a joint venture of the Guy F. Atkinson Company of San Francisco and the J. A. Jones Construction Company of Charlotte, North Carolina, represented at the site by Mr. John Davidson. The head man on the job for Nettleton-Sound is L. E. Baldwin.

Several other contractors should be mentioned:

Morrison-Knudsen Company of Boise—industrial plant construction.

L. G. McNeil Company of Los Angeles—Richland school expansion program.

J. A. Terteling and Sons of Boise—Richland services and utilities.

C. C. Moore and Company of San Francisco—boiler plant installation in North Richland and the plant area.

Notes on Project Operations

Much of the activity at Hanford holds no more interest for the outsider than the working of any large business or industrial organization. A few particulars, however, point up the magnitude and unique character of the development:

Manufacturing. Within the manufacturing divisions of G. E. the real core of the plutonium-making process is contained in two units with the un-revealing titles of "P" and "S" divisions. Production is on a 24-hour per day, seven-day week basis. Most of the jobs in manufacturing are not technical, although more than 200 college graduates are employed. Employment on production, of course, is far less than G. E.'s total of approximately 9,000, since the total includes such varied supplementary activities as running the town, supervising construction, and developing safety devices. Since many members of the manufacturing force are on shift work, the number of workers actually engaged in production of plutonium at any one time is comparable to other industrial operations of rather moderate size.

Technical. The technical divisions contain most of the brain power. Here are the scientists whose job it is to insure the safe operation of control systems and to develop greater efficiency in the production process. Here again the three divisions have been given nondescript titles: "100", "200", and "300" Technical. In addition to Dr. Greninger, who is in charge of this work, the prominent scientists include Dr. O. H. Graeger, Dr. C. W. J. Wende, and T. W. Hauff, who head the three divisions; and Dr. Paul Gast, Dr. W. K. Woods, and Dr. F. W. Albaugh.

Security. It is common knowledge that all new employees on the project must undergo a thorough investigation by the F.B.I. This applies both to employees of the Commission and of G. E. Applicants for commercial leases at Richland and North Richland likewise are subject to a security check. Indirectly, this process has more results than just weeding out subversives, since credit rating, character, and morals are considered in rating the desirability of prospective employees. Another aspect of the AEC security program is the protection of shipments of atomic materials. There is also a government air patrol which covers the plant area to spot unauthorized vehicles and individuals and to prevent aircraft from flying over the area. It is noteworthy that the air base at Moses Lake has been reactivated and that one of its principal responsibilities will be air protection for the Hanford Works.

Safety. The safety record at Hanford is the best of any G. E. manufacturing works, the best of any atomic energy installation, and one of the best for any type of plant in the United States. In 1947 there were 0.81 lost-time injuries per million man-hours worked, which compare with 5 to 6 per million man-hours in most plants of this general type.

Health Instruments. One of the proudest boasts of Hanford management is the complete success of safeguards against radiation injuries. The health instrument divisions of Hanford Works provide detection instruments in the manufacturing areas, recommend maximum exposure levels, and conduct research on the effect of radiation on living tissue. Personnel in areas subject to radiation wear film badges and pocket meters which immediately warn of harmful rays. The average worker is exposed to no more radiation in a year than he would receive from an annual chest X-ray.

Medical. The medical divisions operate a modern hospital (Kadlec Hospital), a medical and dental clinic, and industrial and public health programs. There are 30 doctors and 13 dentists in general practice, 10 doctors in the industrial program and one in public health. All receive a guaranteed income from General Electric. Charges to the residents are comparable to other areas.

Cooperation with Local Governments. The Atomic Energy Act makes provision for payments to local governmental units where the Commission finds that the burdens placed on such units exceed the benefits. The Federal government built the schools in Richland and North Richland, but their operation was turned over to county-state jurisdiction. The residents of Richland pay all taxes except property taxes, but the apportionment of state funds for the schools does not keep pace with the population growth. Accordingly, the Commission last year contributed $573,000 to the $1,400,000 budget of the Richland schools. An additional $750,000 (which includes the purchase price of several school buses) was allocated to outside school districts. No financial assistance has been given to outside communities for facilities other than schools, although there has been heavy local pressure for the Federal government to finance sewage and other improvements. This is true particularly in the Kennewick area, where water supply and sewage disposal are major problems. The Commission's attitude has been that local communities cannot expect Uncle to bail them out of all their problems, and that the benefits to local business from the project more than offset the cost of needed improvements. Currently the Commission has hired an impartial research organization to determine the amount of its responsibility, if any.

Community Management. In effect, the mayor or city manager of Richland is E. L. Richmond, who heads G. E.'s Richland Community divisions and has the title of Community Manager. There is no city government, but the residents shortly will elect an advisory council. There has for some time been an appointed advisory council, and in every way possible the desires of the residents have been controlling in the development of the community. The community manager not only runs the police depart-

RICHLAND, WASHINGTON—1948

ment, fire department, water works, sewage system, and steam plant; he also manages all of the housing, including repair, repainting and re-decorating, and plans and leases all commercial facilities. Naturally, the manager has a very sizable staff engaged in these activities. He also makes use of outside consultants. Among these have been J. Gordon Turnbull and Associates, engineers and city planners; and Graham, Anderson, Probst and White, architects.

The Development of Richland

Richland is by all odds one of the most unusual cities in the world.

It has a very young population and a birth rate of 35 per thousand, 21% above the national average. Kadlec Hospital has delivered more than 2,000 babies.

It has a population of unusual intelligence, and probably the highest family income in the country, about $3,800 per year. There is no wealth and no poverty.

It has no major crime, and had no traffic fatalities in the last year.

It has no privately owned homes, no city government and no property tax.

It ranks with the 10 largest cities in the state, but delights in calling itself "The Village."

Richland was first planned as a city of 16,000, which was adequate to serve the Hanford operation on the scale provided by the original construction program. The homes and the commercial facilities were largely built as permanent structures, sharing some of the shortcomings of other wartime construction, but generally adequate for a modern, planned community. Last year, before the new expansion program was announced, Richland's population was about as planned, but more commercial facilities still were needed. Since then the population has increased to 20,000 with the expectation of 25,000 by next summer. A major expansion of commercial facilities is planned.

When the present residential program is completed, there will be 5,683 family dwellings in Richland, plus some 15 or 20 "tract houses" (structures constituting the village of Richland before the war), and dormitory accommodations for about 1,000 single persons.

FAMILY HOUSING – Richland

Original program	3,840
Pre-fabs	1,333
Standard duplex	1,856
Standard detached	651
1947-48 program (completed)	843
Pre-cut	450†
Standard	329‡
Apartments	64
1948-49 program *(all ranch-type homes)*	1,000

†*Built by John L. Hudson Co. and known in the community as "Hudson houses."*

‡*Built by Atkinson-Jones; "A-J houses."*

About 250 of the new homes are completed and occupied. For the other 750 there are 700 more applications than there are houses. This virtually assures that there will be a further home construction program if the Commission can get the money from Congress. This year there is no further authorization. The applicants for housing all are persons already on the permanent payroll of G. E., the Commission, or commercial facility operators. Some are waiting to bring their families, some live in the surrounding area, and some are doubled up with other families in Richland.

The "master plan" for Richland calls for 94 additional business enterprises where today there are only 38. They run the gamut from groceries to fur stores to camera shops to pool halls—everything a normal community needs. The plan includes a second central commercial area a mile north of the present one; also the development of several new neighborhood shopping centers. The plan is based on a population of 25,000, but sufficient space is being reserved to accommodate facilities for 35,000.

Originally, the government constructed the necessary buildings and permitted their operation on a use permit. That no longer is the plan. Today land is available on long-term lease for private capital to construct its own facilities, either individual buildings or shopping centers to be sub-leased. This reflects two things: first, the desire of the management to make Richland as nearly like a normal city of its size as possible; and second, the judgment that the permanence of the community justifies the encouragement of private capital investment.

G. E., under its contract with the Commission, handles the selection of all commercial operators. Selection is made on the basis of experience, trade connections, character and financial resources, as well as the rental bid. The bid, generally expressed as a percentage of gross, must be sufficient to cover electricity and water, which are not metered in Richland, plus sewage, municipal services and a reasonable return on the land. The first step for interested operators is that of contacting G. E. — the Commercial Facilities Division, Building 761, Richland, Washington. The telephone is Richland 248 or 384. This division is headed by R. J. Pederson and is one of the activities under the general direction of E. L. Richmond, the Community Manager.

Usually an applicant first is given some general information and an application form which covers his experience and background. Subsequently, when there is an opening for a business of his type, he is invited to bid in accordance with specifications established by G. E.

Growth of the Tri-City Area

Pasco has grown from 3,900 population in 1940 to 8,000; Kennewick, from 1,900 to 6,800. The Tri-City area—Pasco, Kennewick, Richland and their environs—has a population close to 65,000. Some notion of the area's growth can be derived from the state's records on taxable retail sales in Benton and Franklin Counties. Richland and Kennewick are the principal cities in Benton County, Pasco in Franklin County.

TAXABLE RETAIL SALES
Benton and Franklin Counties

Fiscal year*	Total sales	Percent of state total
1937-38 *(pre-war)*	$ 3,312,000	0.56%
1941-42 *(early war period)*	5,415,000	.50
1943-44 *(Hanford under way)*	16,371,000	1.21
1944-45 *(construction peak)*	31,253,000	2.06
1946-47 *(post-war)*	22,006,000	.95
1947-48 *(new program started)*	36,405,000	1.39
May-June, 1948 *(latest data)*	8,787,000 *(two months only)*	1.92

*Fiscal years ending April 30.

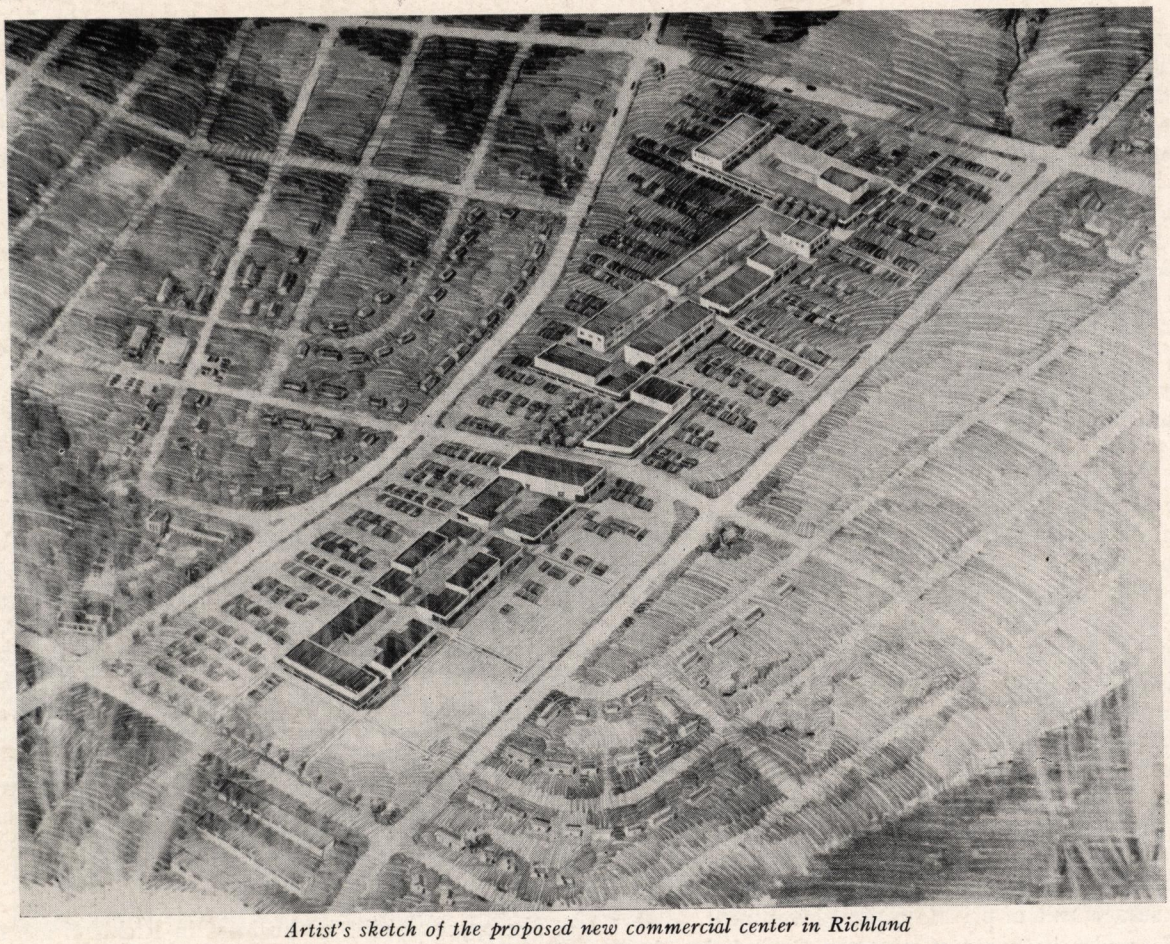
The entire area is booming. In addition to residential construction at Richland, there have been in the past 18 months some 450 new homes in Pasco and 925 in Kennewick. Nettleton-Baldwin-Anderson has announced plans to build 376 homes in one development at Kennewick. Pasco and Kennewick both have an unusually high percentage of home ownership, about 80%. The area, of course, does not depend entirely on the Hanford project for its growth. It is benefiting from irrigation projects, and will benefit further from McNary Dam and the series of projected developments on the Snake River.

The Future of Hanford Works

The opportunities for business in Richland are intriguing. The nature of the community—its income, its age groups, its stable population—make it an ideal market. There is virtually no credit risk. The community is almost insulated against business recessions, since the single payroll does not depend on general economic conditions. It is, of course, extremely sensitive to Congressional appropriations, but it appears unlikely that the country will fail to make maximum use of the Hanford facilities in war or in peace.

To some extent, one feels uncertainty about the project because it is so new and so dependent upon a science which the layman does not understand. There comes to mind the sobering thought that some scientist may learn to make plutonium in a bath tub. Obsolescense of the entire plant is, of course, a possibility, but the possibility is very remote. The research out of which Hanford developed is not so new that it will change over night. Nuclear physics dates back at least a generation. The secret of Hanford is not some sleight-of-hand, some secret scientific knowledge that may be out-dated next year; rather it is the tremendous engineering development necessary to apply the discoveries of science in this field.

The plant will have to keep pace with the scientists, of course. But this portends greater activity, rather than less. Above all, the development of peacetime uses for atomic power is likely to make Hanford Works an industry basic not only to defense, but to an expanded peacetime economy. Most of the product being turned out even now may eventually find its way to peacetime uses. Plutonium retains its usefulness for several thousand years.



Artist's sketch of the proposed new commercial center in Richland

COMMERCIAL ENTERPRISES – Richland, Washington

	Present Number	Anticipated New Number	Anticipated Total
FOOD GROUP			
Combination Stores (Grocery and Meat)	5	6	11
Milk Dealers	1	1	2
Delicatessen—Fish Market	0	1	1
Bakeries	1	1	2
GENERAL MERCHANDISE GROUP			
Department Store	1	1	2
Variety Stores	1	2	3
APPAREL GROUP			
Men & Boys' Clothing & Furnishings	1	2	3
Women's Ready to Wear	2	1	3
Women's Accessory Store	0	1	1
Shoe Stores (All Kinds)	1	1	2
Fur Shop	0	1	1
FURNITURE—HOUSEHOLD—RADIO GROUP			
Furniture Stores	0	2	2
Floor Coverings, Drapery Store	0	1	1
Household Appliance Dealer and Electric Shop	1	1	2
Paint Store	0	1	1
AUTOMOTIVE GROUP			
Motor Vehicle Dealers (New)	1	4	5
Auto Supply Store	0	1	1
Garage	0	1	1
GAS STATIONS	4	7	11
LUMBER-BUILDING MATERIAL GROUP			
Lumber-Building Material Dealers	0	1	1
Heating-Plumbing Equipment	1	1	2
HARDWARE STORE	1	1	2
LUGGAGE AND LEATHER GOODS STORE	0	1	1
DRUG STORES	3	5	8
EATING PLACES			
Cafeterias	1	0	1
Restaurants	2	3	5
Restaurants (Drive-In)	0	1	1
Malt Shop and Dairy Lunch	0	4	4
Candy Store	0	1	1
OTHER RETAIL STORES			
Jewelry Stores	1	1	2
Book and Stationery Store	0	2	2
Cigar Store and News Stand	0	1	1
Florist	1	2	3
Nursery, Greenhouse & Garden Supply Store	0	1	1
Music Store	0	1	1
Photo Supply—Camera Shop	0	1	1
Photo Studio	1	1	2
Sporting Goods Stores	0	2	2
Gift Shops	0	3	3
Optical Shop	1	1	2
PERSONAL SERVICE			
Barber Shops	1	5	6
Beauty Shops	1	5	6
Cleaning and Dyeing Plant	1	2	3
Laundry	1	0	1
Funeral Director	0	1	1
Sewing Center	0	1	1
Custom Tailoring	0	1	1
Shoe Repair	1	1	2
DISINFECTING & EXTERMINATING SERVICE	0	1	1
SERVICES ALLIED TO TRANSPORTATION			
Warehouse (Cold Storage)	0	1	1
Warehouse (Others)	0	1	1
CABINET SHOP	0	1	1
DRINKING PLACES			
Taverns	1	0	1
Liquor Store	1	0	1
Beverage Store	0	1	1
ENTERTAINMENT			
Theaters (1000-seat or over)	2	1	3
Bowling Alleys	1	1	2
Pool Rooms	1	1	2