Partners in Power

A history of the people of Fort Collins
and their desire to create a better life
through a municipal electric utility.

THE FORT COLLINS LIGHT AND POWER UTILITY

By: John DeHaes

Cover design, graphics and
photo editing by: Judy Putnam

Forward by: Bill D. Carnahan,
Utilities General Manager

Epilogue by: John E. Arnold,
City Manager

ISBN NO. 0-931866-23-5

Forward

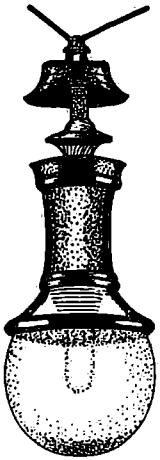
As you read the following pages, the history of the Fort Collins Light and Power Utility will emerge. Fifty years are condensed into less than 100 pages. Of course, many of the stories connected with the Utility remain untold because time has erased some memories or there just was not space available for the telling of everything. John DeHaes and Judy Putnam should be commended for preserving a little bit of the history of Fort Collins. It is important because there is no disputing the critical role that electrical energy has played in improving the lifestyle and productivity in Fort Collins and throughout the world during the past fifty years.

This book, though, is not really just a history of the Utility. It is, rather, a history of the people of Fort Collins. It is a report on how well the visions of those in the past have worked out. It was not easy for those visionaries in 1935 to convince the population that the creation of a municipal electric utility held the key to many of the successes gained in the community in the years that followed. There was a struggle at first. The advocates won out in that struggle, but only with the help of all the citizens. After all, that is what public power is all about—the citizens having control of their own destiny. Even though I am admittedly biased, I think citizens today would give the citizens of 1935 a vote of thanks for creating their municipal electric utility. The rewards continue today. Rates are lower and supplies are abundant. There is a concern for the protection of the environment, a conservation awareness, and the desire to be innovative in solving the problems of the future.

My part in the history is relatively short, but I appreciate the hard work and dedication of those who have come before me. A standard has been set that I hope the Utility can continually live up to. When the 100-year history is written, our goal is that the 1980's will receive recognition as a time when the Utility met the challenges successfully.

Bill D. Carnahan
Utilities General Manager

Table of Contents



The Formative Years: 1887-1910

The first streetlights in Fort Collins were carbon arc lamps located at the center of selected intersections. These lamps were in use until about 1914, when they were replaced by incandescent lamps mounted on poles.

Amidst adversity, a vision of better days; from vision, a faith that leads to dedicated labor; through faith and toil, the fulfillment of the vision. Such is the song of America. Likewise, it is the refrain of Fort Collins and the Fort Collins Light and Power Utility.

In the 1880's when electric power was born, America and Fort Collins faced adversity. The symphonic melody that had been the industrial revolution, was replaced by the ear-splitting din of dog-eat-dog competition. Businesses by the thousands failed. Monopolies flourished as those businesses on the borderline of bankruptcy were "rescued" by the larger conglomerates headed by some of the richest men in the nation's history.

Farming, the lifeblood of America and the Fort Collins area, grew anemic from falling prices and crop failures. Sheep ranching was an exception. It was a mainstay in the Fort Collins area in the 1870's and early 1880's. By one of those quirks of history, the prime mover behind electric power in Fort Collins was one of the most successful of sheepmen. That man, William B. Miner, owned eight ranches and in 1880 alone, more than 20,000 sheep were sheared on those ranches. By 1887, however, the annual shearing count was down to 8,000 head. The economics of ranching had changed.

As the livestock industry waned, however, sugar beets became a prime crop in the Fort Collins region and remained such well beyond the midpoint of the 20th century. Bolstered by extensive sugar beet crop research at Colorado Agricultural College (now Colorado State University), the sugar beet industry helped Fort Collins weather a financial panic that swept the nation in 1893. Congress by that time was on the road to passing major anti-trust legislation which would break the grip of the giant monopolies. The toughest measure, the Hatch Act, became law in 1895, but still, federal enforcers failed to break the giant sugar trust that had flourished in the nation. Certainly, that failure played a role in the continued growth of the sugar industry in the Fort Collins area.

In 1901, the state's first sugar beet processing factory was erected at Loveland. Quickly thereafter, another was constructed in Fort Collins. German and Russian immigrants who had long toiled in Nebraska's beet fields, found their way into northern Colorado's fields. They were soon followed by Mexican immigrants.

In spite of hardships, there are always some with vision and dedication who manage to rise above the turmoil surrounding them. One such man to grace the scene in the troubled 1880's was Thomas Alva Edison.

In 1880, Edison patented an arc lamp. Almost simultaneously, he developed an electric generation system which went into operation just a couple of years later in New York City. Edison's penchant for inventions forced him to leave his so-called "Invention Factory" at Menlo Park for larger research quarters in West Orange, New Jersey. The year was 1887, the same year the aforementioned William B. Miner and three business associates breathed life into what has become today's Fort Collins Light and Power Utility.

What prompted Miner to launch Fort Collins into the world of electricity is one of those things more or less lost in history. Without doubt, Miner viewed the enterprise as a profitable one. Yet, a Greeley resident, A. D. "Ab" Abbott speculated in a 1935 newspaper article that perhaps a circus had more to do with Miner's decision than anything so tangible as financial profit. According to Abbott, a traveling circus featuring arc lights had come to Fort Collins in 1887, and those bright lights so illuminated the skyline and the imagination of circus-goers, that Miner and his associates just had to bring this marvel to Fort Collins on a permanent basis.

Miner convinced Fort Collins attorney E. T. Dunning, Denver machinist and mechanical engineer W. B. Stewart, and the head of the Cheyenne, Wyoming Electric Light Works, E. P. Roberts, to incorporate the Fort Collins Light, Heat and Power Company. The Fort Collins Board of City Commissioners (of which Miner was a member), gave its official blessing to the enterprise on October 18, 1887.

Work on the firm's power plant proceeded swiftly. A 50-by-60 foot brick structure was erected at the corner of Mason and Mountain; a site which today is occupied by Toliver's Hardware Store. The $3,000 facility was completed in just a few months and on February 4, 1888, power flowed from the plant for the first time. Ten, 2,000-candle arc lamps, like the ones Edison patented just a few years earlier, glowed brilliantly from that first surge of power. The occasion was hailed in the local newspaper. In terms of the newspaper account, the glow of the lights was such that "it paled those in Denver." Indeed, it was a spectacular entry into the world of electric lighting. The glow from just one of those arc lamps was equivalent to the light received from one of today's stand-

A 1917 view of Cherry Street looking east at intersection with Grant Street. Collamer Grocery and adjacent Speck Grocery are on the right. Bridge crosses the "Old Town Ditch" which was closed in the 1930's.

Intersection of Jefferson and Linden. Note the original carbon arc streetlight in upper lefthand corner. Lights were hung in the center of the intersections.

ard sodium vapor streetlights. Fort Collins glistened among a mere handful of western cities blessed with electric power.

Although the glow of the arc lamps brightened some corners, the dark cloud of economic recession could not be denied. Faced with financial difficulty, Miner reorganized the firm in 1888, adopting a new name: Fort Collins Electric Light Company. Miner's new company fared better financially. By 1900, the power plant had grown to a capacity of 45 public and commerical arc lights and 5,000 incandescent lamps. A 2,300-volt, 200-kilowatt generator was installed that year to boost the plant capacity.

In 1902, Miner saw a golden opportunity to turn a profit on his investment, and he sold the operation to two other Fort Collins businessmen, Charles H. White and Irving Bonbright. White and Bonbright purchased the company for $35,000. It had cost Miner and his partners $3,000. The two new owners changed the name of the firm to Larimer Light and Power.

Larimer Light and Power continued to supply the community's electric needs six days a week for the next few years. The power plant was shut down from sunrise to sunset on Sundays to permit workers like A. G. Straub to take a break. Straub was among several workers whose job was to trim the carbon arc lights that illuminated many of the city's streets. Straub also trimmed an arc light located atop the Larimer County Courthouse.

Interviewed by a newspaper reporter in 1936, Straub recalled that during the early 1900's, many Fort Collins homes "had been wired with plain bell wire held by common staples" and that meters in the homes were often located in closets or bathrooms. In Straub's words, "It was

not uncommon for the meter reader to be forced to wait until someone finished his bath before the meter could be read."

Straub, who began work at Larimer Light and Power in 1903, played a part in a major turning point in the history of electric energy in Fort Collins. He helped switch Fort Collins from the role of an independent electric system to one with a regional flavor.

In 1907, financial panic was again sweeping the nation. Large New York banks, it had been discovered, were heavily involved in stock market speculation. Economic instability was again the byword, and that instability, along with some other developments close to home, contributed to changes in Fort Collins.

First, Great Western Sugar Company purchased the sugar factories operating in Fort Collins and Loveland in 1904. As production of sugar increased, demand for electrical energy mounted, placing a very heavy burden on the Larimer Light and Power system. Second, in October,

View of the Larimer Light and Power Company facilities on the northwest corner of Mason and Mountain.

THE DYNAMO ROOM — FARMERS LIGHT AND POWER COMPANY

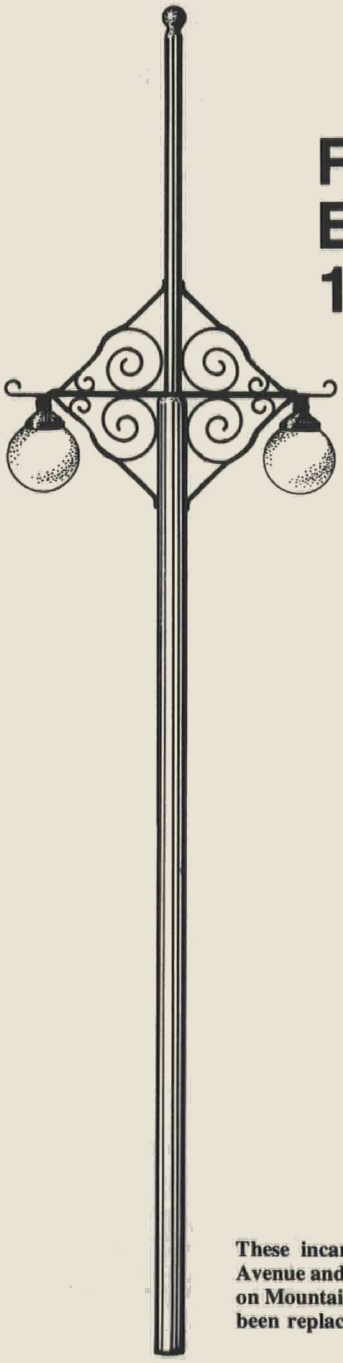
1907, the Northern Colorado Power Company completed what was hailed as "the last word in electric plants" in nearby Lafayette. With the financial turmoil, the growing demand for electricity in Fort Collins, and with a new, large power plant located only 40 miles away in Lafayette, the proverbial "handwriting on the wall' was evident for all to see.

Not long after 1908 dawned, Northern Colorado Power purchased the Fort Collins system. Straub was given the job of closing the Fort Collins power plant, which had served the community for two decades. That plant building was eventually remodeled to accommodate other businesses. His job completed, Straub moved to Lafayette to work at the Northern Colorado Power plant, which would serve Fort Collins and numerous other communities for many more years.

Northern Colorado Power was the forerunner of what is known today as Public Service Company of Colorado. It was the brainchild of Denver Businessman, Joseph P. Henry. Henry conjured his vision in 1906, picturing in his mind's eye a Lafayette power plant fueled with coal from a mine adjacent to the plant site. He also saw a 150-mile transmission loop linking Lafayette with Boulder, Longmont, Berthoud, Loveland, Fort Collins, and Greeley.

After gaining necessary financial support from Denver sources, Henry set about the task of gaining electric service franchises from the cities he hoped to serve. His purchase of the Berthoud Electric Light Company on December 15, 1906, paved the way for the first leg of the transmission loop of which he had dreamed. Eventually, a 66-mile, 44,000-volt line, stretching from Lafayette to Fort Collins to Greeley, was completed. The necessary property transfers that spelled the end

of Larimer Light and Power were obtained in June, 1908. From the electric energy standpoint, Fort Collins was stepping into a new era of excitement and frustration.



Restless Excitement: 1910-1929

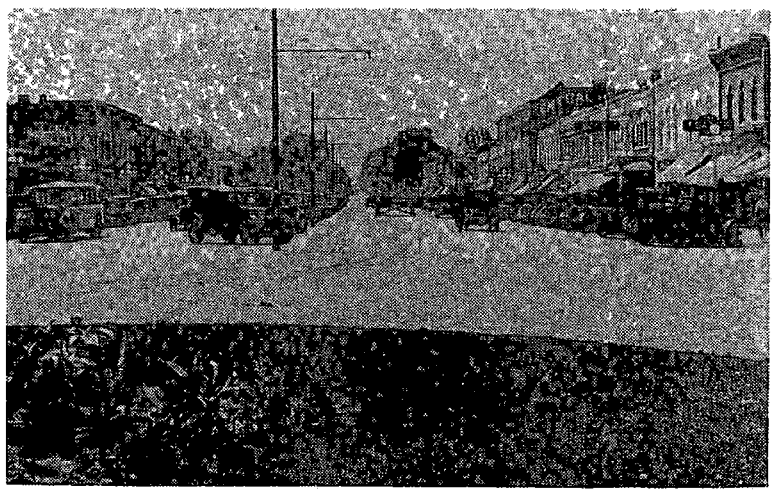
These incandescent streetlamps were installed on Mountain Avenue and College Avenue by 1914. They continued in service on Mountain Avenue until 1955, but had, by that time, already been replaced in the downtown College Avenue area.

The decades from 1910 through 1929 were filled with excitement in Fort Collins. The population, which was listed at 3,053 in the federal census at the turn of the century, climbed to 8,210 in 1910. Growth leveled during the "teens" which encompassed World War I. The 1920 census was 8,755, but by the time the censustakers took their head count in 1930, 11,489 people called Fort Collins home. The community became more urbanized through the 20-year span. The urbanization could be tied, at least in part, to the reliable flow of electric energy from the big Northern Colorado power plant at Lafayette.

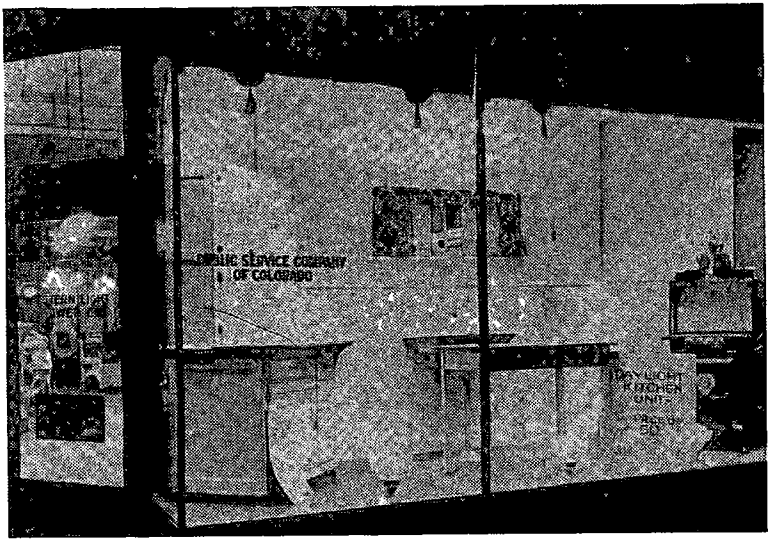
The electric trolley system was born in 1906, and was a very popular means of transportation during the period. The trolley continued to serve the community through June 30, 1951, only to be revitalized again, in a very limited fashion, 30 years later by a group of rail transportation buffs. The automobile also gained wider acceptance and in 1916, the city commissioners authorized construction of the city's first paved streets.

The federal government made sizeable investments in the region, further fueling the economy. With impetus provided by President Theodore Roosevelt, a $100,000 post office building was erected at the corner of College and Oak in 1912. The facility served its purpose for nearly 60 years, and today is an office complex and cornerstone of a revitalized downtown area. Additionally, in 1915, Congress designated 405 square miles of scenic wonderland as Rocky Mountain National Park. The area was thus opened to tourists from the United States and foreign nations as well; all of whom spent money in the region.

Prosperity and growth, however, were not the only hallmarks of



View of College Avenue looking south from LaPorte Avenue. Photo taken in the 1920's.



Store front of the Western Light and Power Company offices in Fort Collins, also known as Public Service Company of Colorado. Photo taken in the 1930's.

the era. The universal application of electricity was becoming evident across the land, feeding a commercial and industrial spurt that would continue into the 1930's. At the same time, big banks in the east were more deeply involved than ever before in stock market and real estate speculation that gnawed at the nation's financial foundation.

Farm prices also declined, except during the World War I years, when farmers were spurred into high production in order to feed American armed forces and those of our allies. After the war ended in 1918, though, farmers maintained those high production levels. With falling market demand their product prices plunged.

The poor farm situation, coupled with financial instability brought about by the big lending institutions, forced many rural banks to close. Farm income, which had soared 33 percent during the war years, became a dim memory for many. New financing was unavailable. Also, many of the farmers' "city cousins" failed to read the ominous signs and continued to indulge in a habit that has caused problems thoughout much of history — buying on credit.

Given that backdrop, it was not surprising that even though Northern Colorado Power had a very sizeable service area and the most efficient equipment available, the company also faced financial difficulty. On September 10, 1914, the company was reorganized, becoming Western Light and Power. Again, in October, 1923, Western was forced into reorganization and became what it is today — Public Service Company of Colorado.

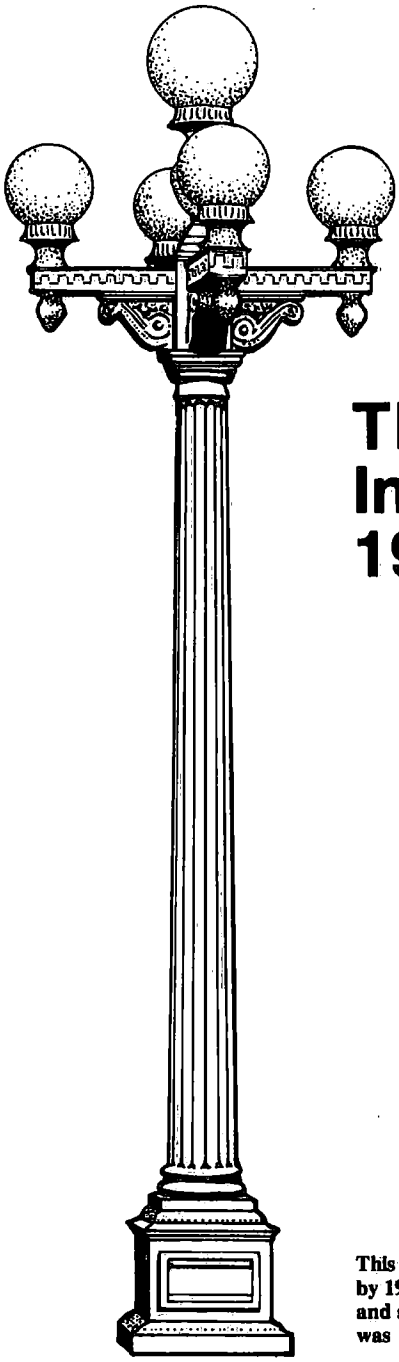
The financial troubles faced by the community's electric power provider led to restlessness among some in Fort Collins, and they began to push for local-oriented electric service. However, many private investors were discouraged by those same tough economic conditions. Still, some continued to espouse municipal electric utility ownership as a means of turning enough profit to pay off needed capital investments and much of the debt being incurred by the city government.

Perhaps encouraged by a 1912 vote for municipal electric utility ownership in Longmont, Fort Collins voters in 1913 were presented with what was the first of several proposals to establish city owned and operated electric utility services. The voters in 1913 declined, but a dozen years later, in 1925, a group of citizens led by Fred Stow began mapping plans for another election try. Taking note of the financial difficulties that led to the creation of Public Service Company and noting the financial woes of city government, the group successfully petitioned for an election in March, 1926. Again, Fort Collins voters said, "no."

The two election defeats did not dampen the enthusiasm of local supporters, however. One of the principals in the 1926 effort, Ray R. Mathews, recalled in a 1936 newspaper account, that such defeats were taken in stride. A one-time mayor of the city, Mathews said, "The fighting spirit of the sponsors undaunted, the battle was renewed, and more of the good folks of our fair city were made converts of the idea."

In April, 1927, the band of local supporters (this time headed by Dr. C. P. Gillette), again got the municipal electric utility question on the ballot. But, once again, Fort Collins voters declined, this time, by a two-to-one margin. Neighboring Longmont, by this time, already had 15 years of experience with a municipal electric utility and nearby Loveland had approved one, two years earlier. Local supporters of municipal electric systems bowed their heads in dismay at the turn of events in the 1927 balloting.

As is so often the case in history, a disaster proved to be a turning point in favor of the local group. The municipal electric system supporters had cause to say, "I told you so" after a black Friday in October, 1929, when the stock market crashed. The stock market disaster signalled the nation and Fort Collins, that full-fledged economic prosperity was still a dream and that the creation of a municipally-owned electric utility could be the means of fulfilling that dream in Fort Collins.



The Battle for Independence: 1930-1935

This ornate fixture was installed in the downtown area by 1921. It coincided with oil exploration in the area and served as a symbol of growth and prosperity. It was removed by 1953.

The Stock Market Crash of 1929 triggered the Great Depression which brought hardship to everyone. Big business, small business, individuals, they all suffered as one government "cure" after another failed.

The gross national product, which had hit $104-billion in 1929, plummeted to only $58-billion in 1932. Nearly 150 banks failed in 1932, and the following year 5,000 more collapsed. In 1933, a quarter of the nation's work force, 15-million people, were unemployed.

A sizeable portion of the unemployed had been on the farm. Congress had created the Federal Farm Board in 1929 to buy surplus crops and soften the blow for farmers, who were still producing more than could be consumed at home and abroad. That effort, like so many, came too late. Farmers also suffered another blow. The thousands upon thousands of acres that had been producing crops were, in large part, lying idle. Drought set in and winds whipped the soil into huge clouds, creating the infamous Dust Bowl of the mid-1930's.

Even though economic hardship reigned, the universal application of electricity was already evident. That fact was not lost on Fort Collins community leaders.

The ever-widening use of electricity was among the hallmarks of the business and industry boom of the 20's. The reliance upon electricity was no more evident than it was on October 18, 1931, the date the founder of it all, Thomas Edison, died. The Electric Power Research Institute, marking the 100th anniversary of Edison's first practical lighting system in 1979, printed the following statement in its anniversary publication: "It was proposed that President Herbert Hoover order all electric current in the United States to be turned off for one minute the day of Edison's funeral, in tribute to the great inventor, but the proposal was declined when it became evident that to do so would cause a paralyzing effect on the nation."

The universality of electricity was actively promoted in Fort Collins as well. In mid-1935, then Light and Power Superintendent, E. E. Church, sent notices to local customers and electric range dealers, espousing the virtues of electricity in the kitchen. Using data provided by more than 100 electric utilities nationwide, Church informed customers and dealers that an average family of five in Fort Collins could enjoy the convenience of an electric range for about 191 kilowatthours monthly, or, $2.42 per month. Church said that a family of five would have a total monthly electric bill of only $5.92, well below the $7.06 per month average bill for customers of all the other electric utilities. In Church's words: "Electricity is cheap. Use it freely."

The universal application of electricity was pushed strongly by President Franklin D. Roosevelt, after he defeated Hoover in the 1932 national election. The Roosevelt administration spurred the construction of numerous water projects which would coincidentally produce electricity. Those projects also provided much needed employment.

H. H. HARTMAN
COMMISSIONER OF SAFETY AND HEALTH AND EX-OFFICIO MAYOR
D. C. ARMITAGE
COMMISSIONER OF PUBLIC WORKS AND UTILITIES
EARL DOUGLASS
COMMISSIONER OF FINANCE AND EX-OFFICIO CITY TREASURER

CITY OF FORT COLLINS
COLORADO

A. J. ROSENOW
CITY CLERK
FRED W. STOVER
CITY ATTORNEY
BURGIS G. COY
CITY ENGINEER

July 15, 1935.

Notice To All Electric Range Dealers & Consumers.

Subject:- Range rates in Ft. Collins compared to other comparable cities in the U.S.

The following average K.W.H. consumption per month per range has been worked out from the 1931 records furnished by 100 different power companies. The following data was compiled from a total of 530,284 ranges installed by domestic consumers.

Average consumption monthly, 1931, with electric range.	Average consumption monthly, 1931, with no electric range.	Difference in consumption after range installation.	Average range rates cents.
190.75 K.W.H.	37.9 K.W.H.	152.85 K.W.H.	$0.037

This data has been compiled for a family of five people which averages about 30 K.W.H. per person, per month. Naturally a smaller family will consume less K.W.H. for electric range use.

Due to more modern electric ranges, better insulation and more efficient heating elements, this consumption for the average family will be cut still more.

Using the average consumption for a family of five, or 190.75 K.W.H., and applying the rates in Ft. Collins, it can be proven that the range rates here are much cheaper in comparison to 100 other comparable cities in the U.S.

1st. 35 K.W.H.	@ .06	=	$2.10
2nd. 35 K.W.H.	@ .04	=	1.40
Remaining 120.75 K.W.H.	@ .02	=	2.42
Total------			$5.92 as compared to

$7.06 in the before mentioned cities.

After the first 70 K.W.H. are consumed, and most of this 70 K.W.H. is consumed by the average family by lights and appliances alone, all K.W.H. used above the 70 K.W.H. line may be used at the very reasonable cost of only $ 0.02 per K.W.H.

Electricity Is Cheap, Use It Freely.

Signed by

E.E. Church
Sup't. Light & Power Dep't.
City of Ft. Collins, Colo.

The Tennessee Valley Authority (TVA), created in 1933, is a prime example of the Roosevelt administration thrust. In 1935, the Rural Electrification Administration (REA) was created to bring power to rural areas at a time when only about eleven percent of the nation's farmers had electricity.

It was more than evident during the 30's that electricity had gone from being a luxury to being a necessity. Some leaders in Fort Collins not only recognized that fact, but took hold of it as a tool to improve the economic condition of the community. City Commissioners Harry Hartman and W.J. McAnelly were among those at the forefront.

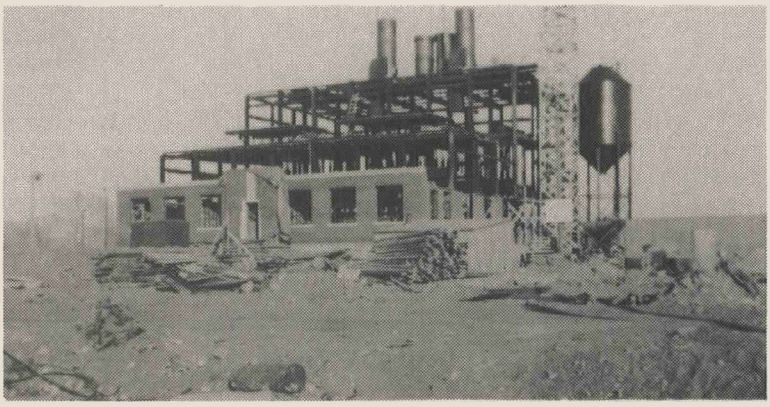
When the City Commissioners met in the fall of 1930 to prepare a 1931 city budget, Hartman was struck by the obvious. Recalling the meeting a few years later, Hartman wrote: "I realized that Fort Collins

could not keep up its necessary overhead and expenses and pay off its indebtedness without some other source of income than that obtained from taxation, without a greatly increased tax levy. I then began an impartial investigation of municipal ownership and electric light and power systems, especially as to reports that many cities and towns claimed to have paid off their indebtedness and reduced taxes, or lowered rates for service." Hartman recalled that his investigation "converted me into an ardent advocate of municipal ownership of light and power plants."

Spurred by Hartman and others, the City Commissioners in 1931, retained Denver consulting engineer H.S. Sands to study the feasibility of a Fort Collins municipal electric system. His findings were delivered in early 1932 to McAnelly, the City Commissioner in charge of Public Works. McAnelly detailed the report for his fellow commissioners during a February 19, 1932, meeting. It indicated that a bond issue, ranging from $745,000 to $907,000, would be needed to finance a municipal power plant and electric distribution system. Supported by the Commissioner in charge of Finance, Roy A. Portner, McAnelly convinced his colleagues that the community's economic health was still too poor to bear such a financial obligation. However, he did convince his fellow commissioners that the report could be used as fuel in trying to obtain lower electric rates from Public Service Company.

Three days after the meeting, the commissioners formally asked Public Service Company to justify existing rates. On March 3, PSCo responded with a rate reduction offer. The offer was accepted by the commissioners on May 8, with the notation that lower rates would mean an annual savings of $15,000 for local customers.

Momentum had been established for a municipal electric system and the agreement on lower PSCo rates did not deter the supporters. On August 9, 1932, a citizens' group known as the Fort Collins Municipal Light and Power League filed petitions with the city clerk, seeking an



A 1935 photo of the Municipal Power Plant as it was being constructed in Fort Collins.

election on the establishment of a municipal electric system. The measure also called upon the city to issue $745,000 in bonds to finance the system. In a September 12, 1932 election, Fort Collins voters decided by a 2,659 to 1,704 margin to create such a system with the bond issue. The first shot in the battle for independence had been fired.

Only a few months prior to the election, the city commissioners had determined that economic conditions did not favor an entry into the bond market. As it met with the League representatives a few days after the election, the commissioners convinced the League that a bond market

Read This Edition To Know Your City Light Department

Fort Collins Express-Courier

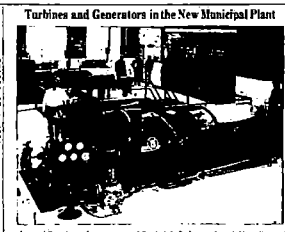
Congratulations to The City Light and Power Department

VOL. LXIII—NO. 300 FORT COLLINS, HOME OF COLORADO STATE COLLEGE, SUNDAY, APRIL 19, 1936—28 PAGES PRICE 5c

Completion of Power Plant to Climax 5-Year Struggle

City Officials Voice Their Views on Municipal Plant

Turbines and Generators in the New Municipal Plant



Palmes Describes Electric System as Completed Unit

Many Firms Helped With New Plant

Engineering Firm Chosen Carefully

Foresee Municipal Utility Which Will Eventually Pay Off Fort Collins City Debt

Commissioner Answers 'How Pay for Plant'

Earl Douglass Tells Method On Which Plant Is Financed

'Sands Report' Result First Move in '31; Voters in '32 Authorized City to Proceed; Past Year Has Seen Actual Development Following Acquiring Distribution Lines

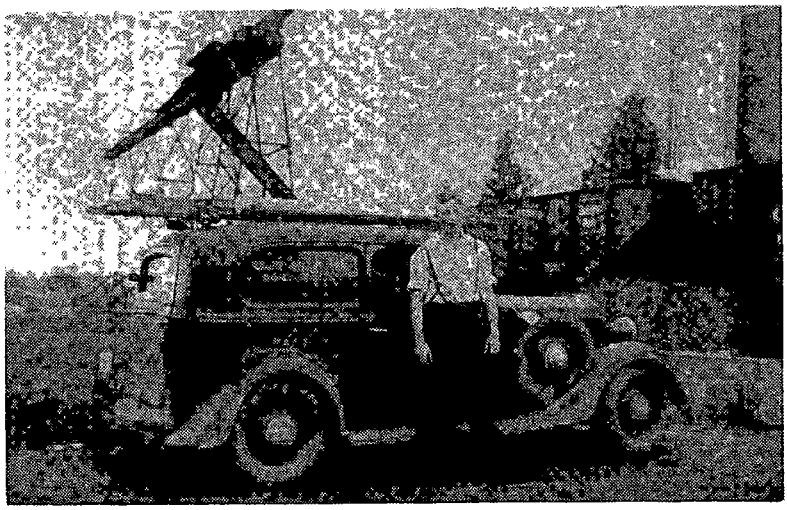
Explains Legal Difficulties In Acquiring City's Plant

entry was still unwise. The two groups agreed, however, to approach the federal Public Works Administration to seek a loan and grant totaling $738,000 to erect a power plant and finance a municipal system. The PWA, one of many Roosevelt era public assistance agencies, quickly agreed to the city request, provided the city would assume full control of the PSCo system located within the city limits. The city agreed, taking a step that led to more shots being fired in the battle.

The City's agreement with PSCo was, in the opinion of Special Assistant City Attorney Herbert A. Alpert, fraught with technicalities that could frustrate efforts to gain control of the PSCo system within the city limits. Among other things, the agreement called for a purchase price set through arbitration. In Alpert's words, "Upon fixing the cost, the city would be bound by it irrespective of the reasonableness."

The city commissioners decided the purchase price should be determined through negotiation and, failing an agreement, through condemnation proceedings. The first step was negotiation and Alpert later wrote, "After several months, the attempt to openly negotiate for the purchase of the system fell flat by the company's answer, that it had nothing to sell."

While the negotiations continued, investment bankers refused to consider any underwriting or bond purchase. At about the same time, the PWA made several inquiries of the city and finally, following a public hearing on the issue, the regional PWA staff filed a favorable report with the PWA Administrator and U.S. Interior Secretary Harold L. Ickes.



Glen "Troubleshooter" Culler with an original utility linetruck parked behind the Municipal Power Plant. Coal handling structure is in background. Sign in truck window reads: "Light and Power Dept. Fort Collins No. 43." Photo taken in late 1930's.

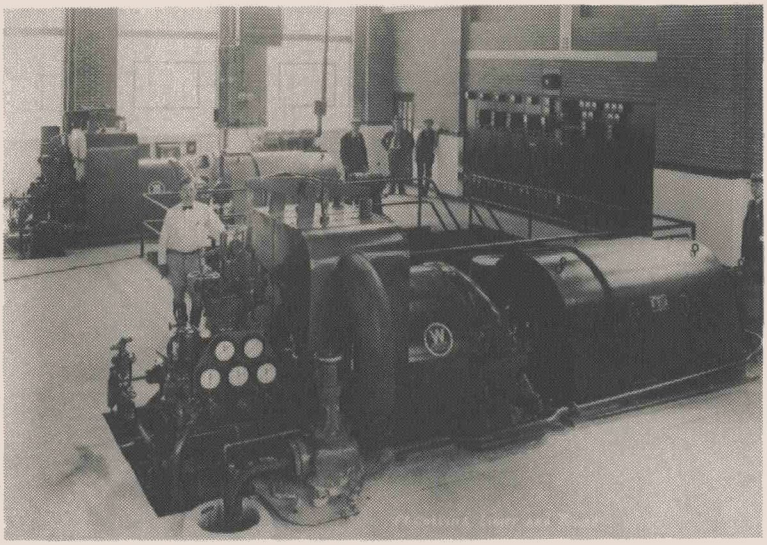
Original crew of the Municipal Power Plant as it opened in 1936. Standing (L-R): Guy McTee, Harold Kiley, Zeke Bushnell, Joe Eckhert, Bob Morrison, Art Evans, Olin Woodyard, Dutch Bitmer, Dave Brown, Ken Godby. Front row (L-R): Harold Parr, Clarence Knufkee, Stan Case.

The recommendation, however, was tainted because, during the public hearing, PSCo officials warned that the company would never permit the city to acquire its own light and power system.

More than a year after the election, on November 3, 1933, the PWA announced approval of the Fort Collins loan-grant request with the notation that funding had been approved. On April 10, 1934, the contract with the PWA was finally signed. The contract stipulated that the PWA would forward the funds to the city when it acquired the PSCo facilities. Since the negotiations with PSCo had gone nowhere, condemnation proceedings were ordered. Citizens banded together to raise $3,000 to cover the cost of the condemnation action.

On May 25, 1934, the city filed a petition of eminent domain in Larimer County District Court. PSCo immediately countered with a change of venue plea, claiming a fair trial on the issue could not be achieved in Fort Collins. The PSCo plea was denied and the firm turned to the Colorado Supreme Court, asking that the District Court be denied jurisdiction in the case. The Supreme Court denied the PSCo motion and finally, on September 18, the case went to trial in the Fort Collins court. On September 27, the jury found in favor of the city, fixing the city's purchase price at $216,500. The price was favorable to the city which had appraised the worth of the PSCo system at $195,443. The company had claimed its Fort Collins facilities were worth $350,351.

Although the purchase price had been established, the time to pay



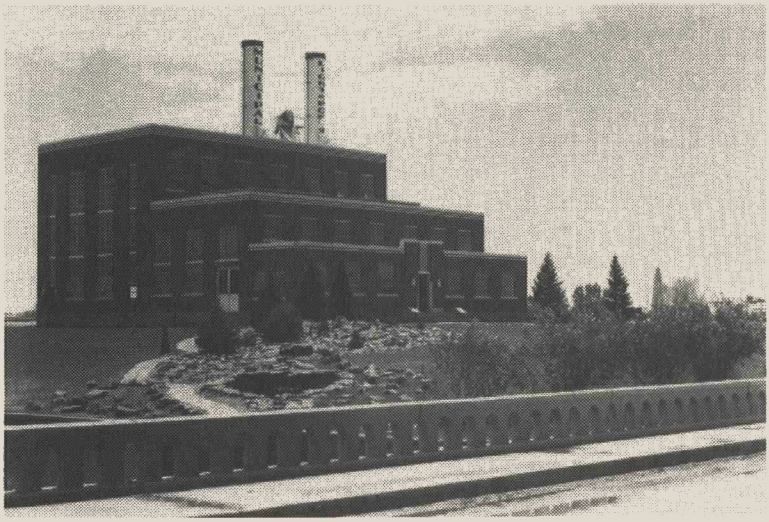
Steam turbine generator inside the power plant.

the tab and move ahead with a municipal system had still not arrived. PSCo, as had been expected, moved for a new trial. The plea was denied.

By now, 1935 had dawned and on January 23, PSCo came up with a new rate reduction offer. The firm notified the PWA of its rate reduction plan and the PWA legal staff in Washington responded by giving the city commissioners some bad news. The PWA staff said, if the city could not offer customers rates that were at least 15 percent below what PSCo was offering, the Fort Collins project would lack "social desirability", a term tantamount to rejection.

With this turn of events, Fort Collins citizens were again asked to make an important decision in the voting booths. Should they accept lower rates offered by PSCo and forget the idea of a municipally-owned system? In the election which, by the way, was financed by PSCo, the voters said "no", but by a fairly narrow margin. A total of 2,134 persons liked the PSCo offer while 2,746 favored proceeding with a municipal system. The decision at the ballot box was still not the final answer. It was back to the courtroom.

On January 11, 1935, four Fort Collins taxpayers, represented by the PSCo legal staff, asked the Larimer County District Court to prevent the city from selling the bonds that had been authorized by the voters in 1932. On that same day, PSCo went to U.S. District Court and asked that the city be enjoined from selling its bonds to the government and to prevent the PWA from either purchasing the bonds or issuing a grant to the city. Court denials followed resulting in follow-up PSCo appeals



The Municipal Power Plant in 1938. By that time, two of the proposed four boilers were installed and operational.

to the State Supreme Court. The appeals to the high court were also rejected.

While the PSCo injunction actions were pending, the city asked the Colorado Public Utilities Commission to force the firm to sell its electricity to the city at reasonable rates, until the city could generate its own power. On March 30, 1935, the PUC ruled in favor of the city, resulting in an immediate PSCo appeal. The PSCo appeal was rejected and once again, PSCo took the issue to District Court. Once again, the Fort Collins court found in favor of the city.

Throughout the early spring of 1935, a Denver bonding firm had indicated an interest in financing the Fort Collins municipal electric system. On April 19, the city negotiated the sale of $745,000 in bonds with the Brown, Schiessman, Owen and Company firm of Denver, at an interest rate of four and one-quarter percent. The next day, April 20, the money was deposited with the District Court to cover the cost of purchasing the PSCo facilities within the city limits.

On April 25, the city got into the electric utility business, sending crews door-to-door to read electric meters. The next day, crews reported that some meters and transformers had been removed by PSCo employees. On April 29, it was back to court. The city asked the District Court to bar PSCo employees from removing transformers and meters. The court issued the order, saying the equipment no longer belonged to the firm. The rap of the judge's gavel sounded the end of the long battle for independence.

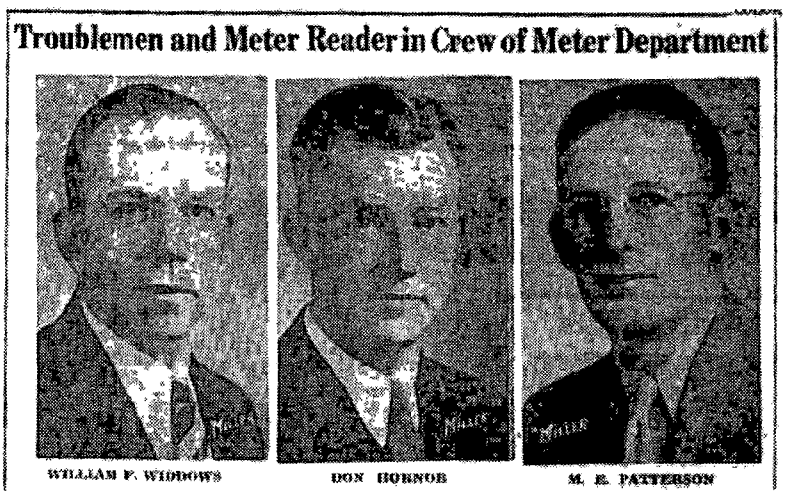
On May 25, 1935, the city commissioners formally created the Elec-

tric Utility Department, an entity that, although the name would change, would remain intact until 1984, when its role would be combined with the Water Utilities under a reorganization plan.

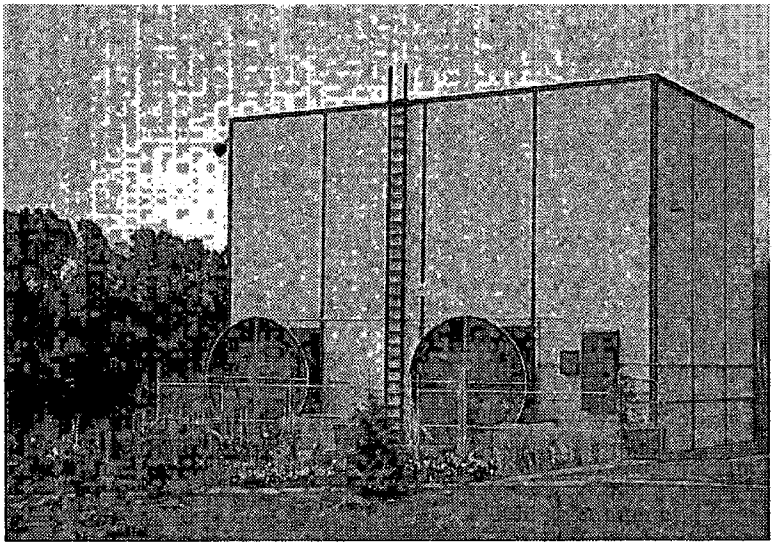
In establishing the Electric Utility Department that day in 1935, the commissioners adopted the same rate schedule that had been offered by PSCo in the election held earlier that year. The commissioners also hired Guy Palmes to become the Utility's first general manager. Palmes, who reported for work on August 1, 1935, had been serving as head of the Raton, New Mexico, municipal electric system.

Within two weeks of Palmes' arrival, on August 15, construction was started on power lines which would serve the Andersonville community at the east edge of the city. That same date the commissioners received a report on first quarter financial operations. The net profit was $2,750, resulting in broad smiles on the faces of city officials who, up until that time, had dared not smile too much.

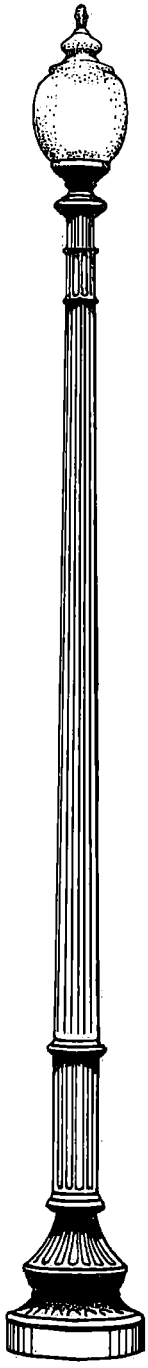
On October 14, 1935, ground was broken for the power plant that would serve the community for many decades. The plant site was atop an old city landfill on the banks of the Poudre River on North College Avenue. A few days later, on October 25, the F.J. Kirchhof Construction Company of Denver, was awarded the contract to erect the power plant building. The firm's successful bid totaled $90,970. That contract and numerous others were awarded in the autumn of 1935. Fort Collins was just a few months away from boasting of its own power plant.



From a 1936 newspaper article. Bill Widdows later became Superintendent of the Light and Power Department.



The original cooling tower at the Municipal Power Plant, 1936.



From Dump to Dynamo: 1936-1939

This style of streetlamp was installed on College Avenue in the downtown area in the early 1930's. It was replaced by a similar style in the late 1930's. The latter style was still being used up until 1954.

On a May day in 1936, Fort Collins residents got their first power from their own power plant. The switch was thrown at the plant, which, not unlike the fabled Phoenix, had risen to life from the ashes of a trash dump.

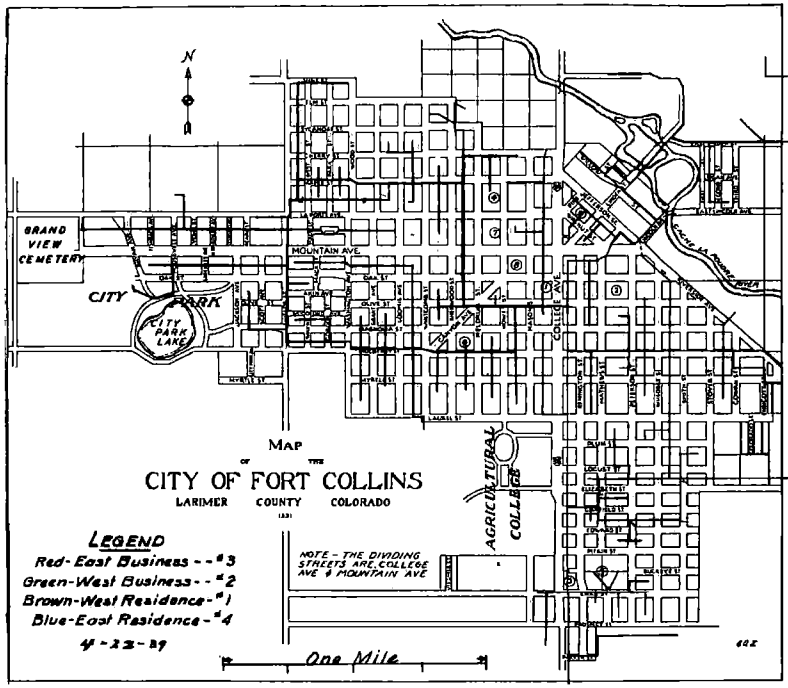
With two 1,875 kilowatt coal-fired generators humming a powerful tune, the power plant supplied the community with 3.7-million kilowatt hours of electricity by year's end. Generation amounted to 6.8-million kilowatt hours in the first full year of operation. By comparison, that demand, registered by a little more than 3,800 customers, is no higher than what is required today by Colorado State University's Veterinary Medicine Hospital. It is only about one-tenth of what is required annually by the entire University.

The hum of those generating units meant more than just reliable power. The hum was translated into a jingle that had become an almost forgotten melody at the city hall cash register. Net city income from the new municipal utility amounted to $42,190 during the first year of operation. Net income was more than $50,500 the following year.

Not only was the municipal electric system helping solve the city's financial problem, the utility was assisting its financially-strapped customers as well. Just a year after the switch was thrown to fire the plant, customers' rates were reduced to four cents per kilowatt hour. The purchased power cost just prior to the plant fire-up was eight cents per kilowatt hour. With the Great Depression still dominating almost every facet of life, the reduced rates and black numerals instead of red ones in the financial ledgers, were almost too good to believe.

With reliable electric power now available at reasonable cost, more and more ways were found to use it. By 1937, Fort Collins already had its first electric traffic signal at College and Mountain. Arthur Evans, chief power plant operator, designed the signal, equipping it with a bellows so that a whistle would sound each time the light changed. Evans

From a 1936 newspaper article. Gladys (Casady) Foster worked at the department until her retirement in the mid-1970's.



A map showing the original system of overhead electrical lines in Fort Collins. The colors could not be reproduced.

had been brought to Fort Collins by Palmes, who was familiar with Evans' work with the Raton, New Mexico, Public Service Company. Not too many years later, Evans' son, Ken, would begin work with the Utility. He remains with the Utility today.

In the home, the "stuff of dreams" (electric ranges, washing machines, toasters, etc.) were becoming more commonplace. Even rural folks were gaining a slice of the "good life" as REA systems grew. President Roosevelt's creation of the Rural Electrification Administration in a 1935 executive order was followed a year later by passage of the REA Act in congress. FDR made the REA a permanent federal agency when he signed the Act on May 21, 1936. Not long thereafter, systems, such as the Poudre Valley REA headquartered at Fort Collins, developed across the country, contributing to expanded uses of electricty.

The universal application of electricity was perhaps best demonstrated as the decade of the 30's drew to a close. War already engulfed much of Europe in 1939, when FDR ordered a massive U.S. defense buildup. Naturally, the demand for electricity grew as factories rolled into high gear. The same year, 1939, the first expansion occurred at the Fort Collins power plant. A third steam boiler was added. The cost was covered by available utility funds. Later, after America itself became

Arthur Evans is chief operator and chief electrician at the municipal light plant. He directs the operation of all plant machinery. Born in Glenwood Springs, December 22, 1898, he learned the machinist's and electrician's trade while working for the St. Louis - Rocky Mountain - Pacific company.

From a 1936 newspaper article. Arthur Evans' son, Charles (Ken) Evans, currently works for Light and Power as a Construction Projects Manager.

embroiled in what had become World War II, the new steam boiler was converted to operate not only on coal, but on oil and gas as well. Again, the Light and Power Utility had generated sufficient revenue to cover the conversion cost. The move to multiple fuels for power plant operations was very wise. During America's involvement in the war, there were fuel shortages on the homefront. The ability to maintain a reliable flow of energy, via the fuel available at any given time, kept the lights on at home and kept the machines running in businesses and industries which were vital to the war effort.

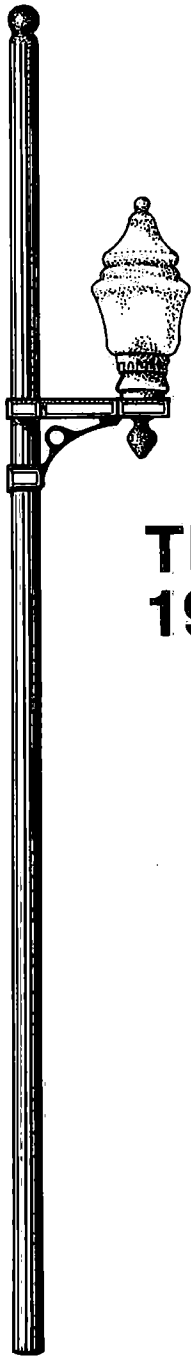
The year 1939 was also important in terms of Utility leadership and city government leadership. It was on February 10, 1939, that the Fort Collins city commissioners adopted an ordinance creating the post of City Manager, making it known they planned to elevate Palmes to the new position. On March 1, Palmes became the first Fort Collins City Manager, a job he would hold until 1961 when he retired at the age of 71.

The move to a city manager form of government was not hailed by everyone. In April, 1938, a proposal to create the city manager form of government had been rejected by voters, 1,802 to 1,546. Not everyone was happy to see the commissioners create the job on their own. The commissioners took the step anyway, citing a concern that "the mayor's post was becoming too powerful."

Palmes maintained his leadership over the Utility while holding down the city manager's job. However, he did rely on many people to keep the system in top condition on a day-to-day basis. Among those who

Guy Palmes first manager of the Light and Power Utility and first city manager of Fort Collins.

took the lead in keeping the Utility in sound condition were Warren Terry and Bill Widdows. Terry eventually went into military service and, upon discharge, moved to Greeley to head the Home Light and Power organization. Widdows took over the helm during much of the war, lending his support to the military effort by heading scrap metal drives on Sundays. Widdows would remain with the Utility for many more years.



The War Effort: 1940-1945

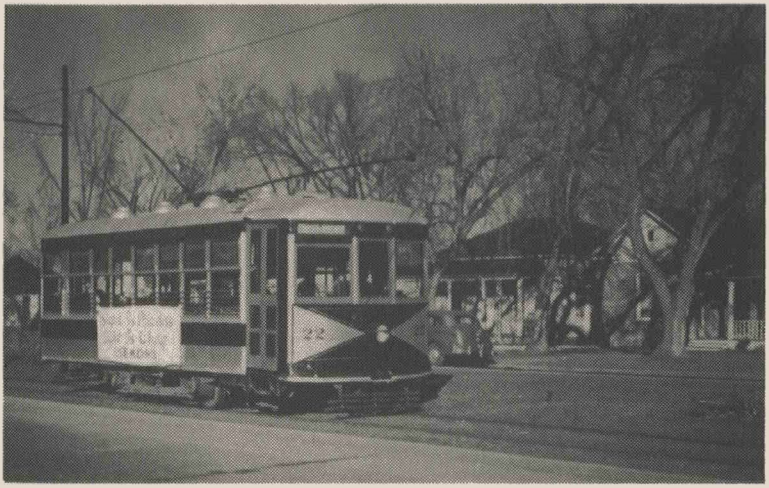
This fixture was installed in the "Old Town" area of Fort Collins along Walnut and Linden Streets in the 1930's. It was replaced by modern "cobra head" fixtures by 1959.

Palmes' engineering and administrative skills stood him in good stead as the community joined in the national defense buildup ordered in 1939, and the war effort itself which was triggered by the Japanese attack on Pearl Harbor on December 7, 1941. His keen interest in the electric utility was evident even up to the time of his death nearly a decade ago. He and other electric utility leaders across the nation faced perhaps their biggest career challenges as the United States went to war.

Entrance into World War II meant giant electrical energy demands. The Tennessee Valley Authority (TVA) was a prime example. During the war years, TVA reached the limit of its hydroelectric power resources. The TVA output more than doubled between 1939 and 1945. Although massive military facilities or weapons system manufacturers were not located in Fort Collins, there were numerous commercial operations that were involved to some degree in the war effort, placing increased demands on the young Fort Collins Light and Power Utility system.

In Fort Collins electricity consumption climbed 25 percent from 1940 through 1945, from 7.5-million kilowatt hours to ten-million kilowatt hours. This growth occurred even though the number of customers increased by only 300. The demand for power was such, that in 1942, voters were asked to approve a $585,000 bond issue to finance another generating unit and a fourth boiler at the power plant. Voters overwhelmingly approved the 20-year issue which financed a 5,000-kilowatt generator and a 75,000 pounds per hour steam boiler unit, plus an addition to the power plant building to accommodate the new equipment.

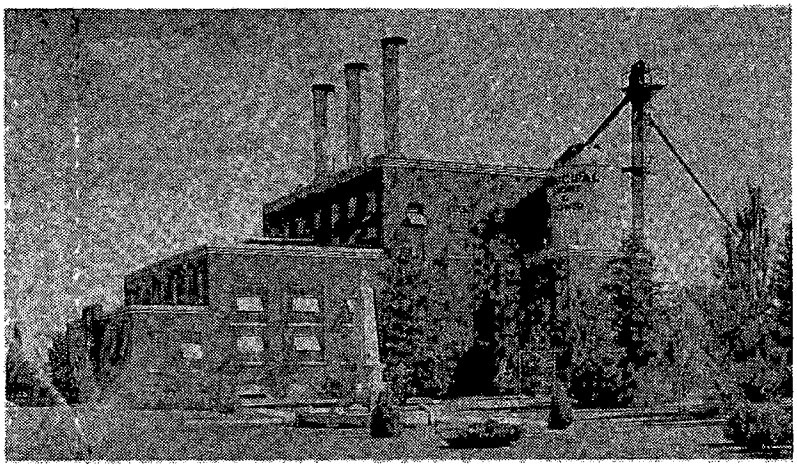
The 20-year bonds, which doubled the power plant's generating



A trolley car in 1941 which boldly displayed a sign stating: "Sight Is Priceless, Light Is Cheap, USE MORE."

"Your" Light and Power DEPARTMENT

January 1, 1942



. . . from City Dump Grounds in 1935 to City Beauty Spot in 1942

Third stack appears on Municipal Power Plant Structure. It shows the addition of a boiler, needed to keep up with growing demand for electricity.

capacity, were paid off just six years later. The original $745,000 issue, approved in 1935, was retired in 1943, just eight years after citizens approved the creation of their own municipal electric utility. All subsequent bond issues were likewise, retired early.

Meeting the increased demand was not an easy task. Like their counterparts across the land, Light and Power workers enlisted or were drafted into military service in large numbers. Palmes minced no words about the situation in a letter to the Federal Power Commission on May 8, 1943. The agency required annual reports from all electric utilities and had written Palmes about an incomplete Fort Collins report. In part, Palmes' written response was:

> "Your letter of April 28 received and we have to apologize for not getting the report back to you sooner due to the fact that we have been indiscreet in letting all our young technical engineers go into the service, as at this time we thought that they were needed more there than keeping statistics for reports. We have one graduate engineer on our city staff in this line of work

Here is the financial record—

Original Cost of Power Plant	$500,000.00
Original Cost of Distribution System, Meters and Street Lighting	$245,000.00
Original Bond Issue at 4¼% Interest	$745,000.00

(The unpaid balance of these bonds were called and resold, April 1, 1940, at the low interest rates of 1¾% and 2%. This interest reduction was made possible by the large net earnings shown by the plant.)

Bonds owned by the Department	$ 71,000.00
Bonds owned by others	$455,000.00
Total Bonds Outstanding	$526,000.00
Added to Capital Account	$368,260.00

(Additions in equipment at the plant and in the distribution system have increased the output capacity of the plant from the original of 3,000 kilowatt hours to 7,000 kilowatt hours.)

Present Total Value of Property	$1,113,260.00

From the time the plant started producing current in 1936 until January 1, 1942, the equity of the City has grown from nothing to..... $658,260.00

$10,000.00 a year is paid by the department to the City of Fort Collins in lieu of Taxes.

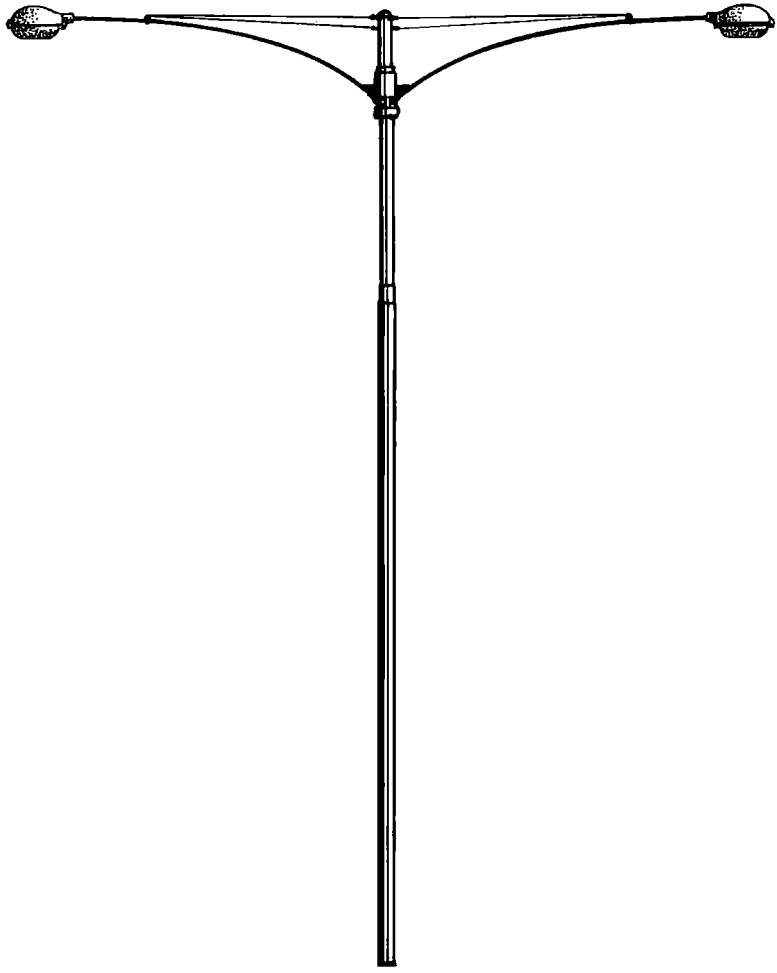
"Your" Light Plant is adequate to serve Fort Collins for the next 10 years under normal load growth!

and he is at this time City Manager taking about three other mens' place so they may help with the war work."

When Palmes wrote that letter, he may well have been wishing that a faithful Light and Power employee, who had graduated from Colorado State University's electrical engineering college in 1940, was still around to help with those reports. That graduate, Stan Case, took a job in Pennsylvania upon graduation and joined the Army Signal Corps in 1941. Case, who had worked eight-hour night shifts at the power plant from 1936 until graduation in 1940, may also have longed to be back at the plant as Palmes wrote his letter. One thing is certain, neither man at that time foresaw the day when the war would finally end, the day they would meet again, and the day Case would take over the reins of Light and Power. They could not know that the "changing of the guard" at

Light and Power would be less than two decades away; that their reunion would come in only three years, and that the end of World War II combat would come in just a couple of years, scant days after the atomic bomb was dropped on Japan.

Postwar Prosperity and Growth: 1946-1959



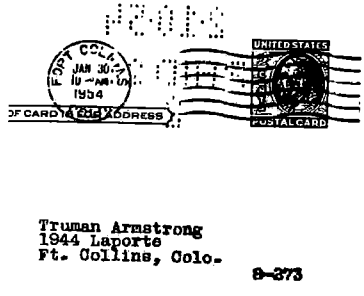
This fixture was installed along College Avenue by 1955. It can still be viewed in the 200 block of North College. Most of these fixtures had been replaced by the mid-1970's. Significant updating of the streetlighting system occurred in the 1950's.

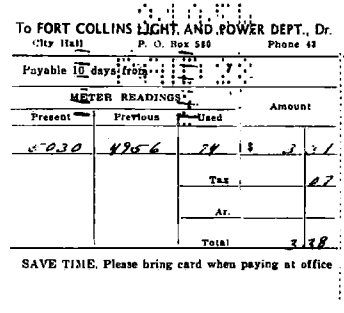
Some of the keenest scientific minds ever assembled unleashed the power of the atom which ended World War II. The nation and the world were grateful, but at the same time, apprehensive because it was suddenly and abundantly clear that man now had the means to quickly and completely destroy himself. The nation and the world set about the task of harnessing this awesome power for peaceful purposes. Before the decade of the 40's closed, the nation's first nuclear-fueled electric generating plant was already built.

Scientists also sought peaceful uses for other technologies that had been developed during the war. By 1948, engineers produced the first transistor. That breakthrough keyed an electronics, computer and semiconductor industry that now, nearly four decades later, is a vital part of the Fort Collins economy.

Between 1945 and 1950, such things as the instant camera, long-playing records, photocopying, and the ballpoint pen were available for the first time to the buying public. Those items, and a myriad of others such as television sets, were eagerly purchased by families, many of whom were now two-income households. Women, who had flooded the labor pool when men were pressed into military service, remained in the work force in large numbers. They contributed to the start of an age which is still very much alive today—The Consumer Age.

The unprecedented growth of business and industry meant a corresponding growth and prosperity for electric utilities. Despite rapid growth in electricity demand, electric utilities supplied the needed product at lower and lower unit prices. Power pooling (the linking of systems in a region and between regions) had been going on since the 1930's and continued at a torrid pace during the war and beyond. Power pooling led to greater efficiency and lower costs. The lower costs led to increased demands. The cycle seemed to have no end. An emphasis on long-range planning emerged within the electric utility industry in order to insure the continuity of this "cycle of success."





A bill from the Light and Power Department in 1954. It shows a total of 74 kWh used at a cost of $3.38.

From a 1959 magazine article written by Stan Case. It illustrates the innovative concept of placing electrical lines underground.

Fort Collins was in the mainstream of this growth. The Light and Power Utility was one of the first to recognize the need for long-range planning. It was in light of this obvious need that Palmes welcomed the return of Stan Case.

Upon receiving his military discharge in 1946, Case and his wife, Lola, purchased the Arrowhead Lodge up the Poudre Canyon, northwest of Fort Collins. For the next several years they spent summers operating the lodge. During the winters, Case served as a consultant to several city departments, not the least of which was Light and Power. He authored numerous long-range planning reports, which took note of growth rates never before witnessed in the community. Many of those reports contributed to power plant expansions and to purchases of power from outside sources.

The population of Fort Collins doubled between 1940 and 1960, hitting 25,027 in the 1960 federal census. From 1946 through 1960, kilowatt hour sales increased five-fold, soaring from 11.1-million kWh in 1946 to 51.1-million kWh in 1960. The Utility and all other city departments outgrew the facility that had served as City Hall since 1882. In 1957, the City Hall building on Walnut Street was converted into a fire station. All other city departments moved to a new structure located at 300 LaPorte Avenue.

To meet growth demands, voters in 1949 okayed a $25,000 bond issue to build a fourth, 5,000-kilowatt, generating unit at the power plant. The 20-year bonds were retired six years later, in 1955. In that same year, the Utility turned to the U.S. Bureau of Reclamation as a source of additional power. That mid-decade move to federal power pool sources was an early sign that the 1949 addition and the construction of a new

The roster of Light and Power personnel in 1957.

Light and Power Department:
G. H. Palmes — Director, Civil and Electrical Engineer
Office personnel:

H. D. Henry — Auditor	Dorothy Hansen
Charlie Cain — Office Supervisor	Hazel K. Parsons
Bertha M. Nicholson — Cashier	Gladys Foster
Gertrude Ramsey	Shirley M. Bartlett
Virginia Easter	Nancy Cross
Terry Freeman	

Plant personnel:

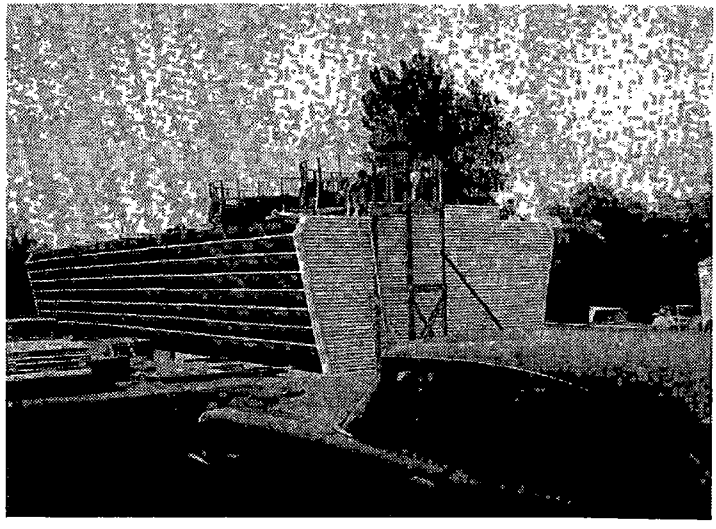
Arthur L. Evans — Superintendent	Harold M. Kiley
E. Harold Owens — Ass't. Supt.	Guy McTee
Olin Woodyard	Ronald F. Mattern
Lloyd G. Mickelson	Sam E. Warner
Herbert H. Kamerzell	Richard D. Mickelson
Fred Waag	Charles A. Ohberg
Luther S. Mize	Pete Chavez
Louis Salazar	

Distribution personnel:

William F. Widdows — Superintendent	L. L. Gree
Stanley R. Case — Part time Electrical Engineer	
Warren R. Dalke — Ass't. Supt.	Billy K. Townsend
Lawrence Foster	Russell E. Lonz
Donald D. Kiley	Herman Uhrich
Frank R. Fisher	Raymond A. Souders
Charles Kenneth Evans	William R. Burr
Wayne Souders	Rupert M. Coleman
Lorne W. West	Frank W. Soper
George H. Mason	Harold R. Morris
Clifford A. Rader	Robert I. Pelts
Edward R. Batty	Leslie P. Storhaug
Robert L. Stafford	Kenneth W. Newberry
Bobby J. Bunzel	John T. Giuliano

cooling tower in 1952, would have to be followed by even more power plant improvements, or eventual total reliance on other power sources.

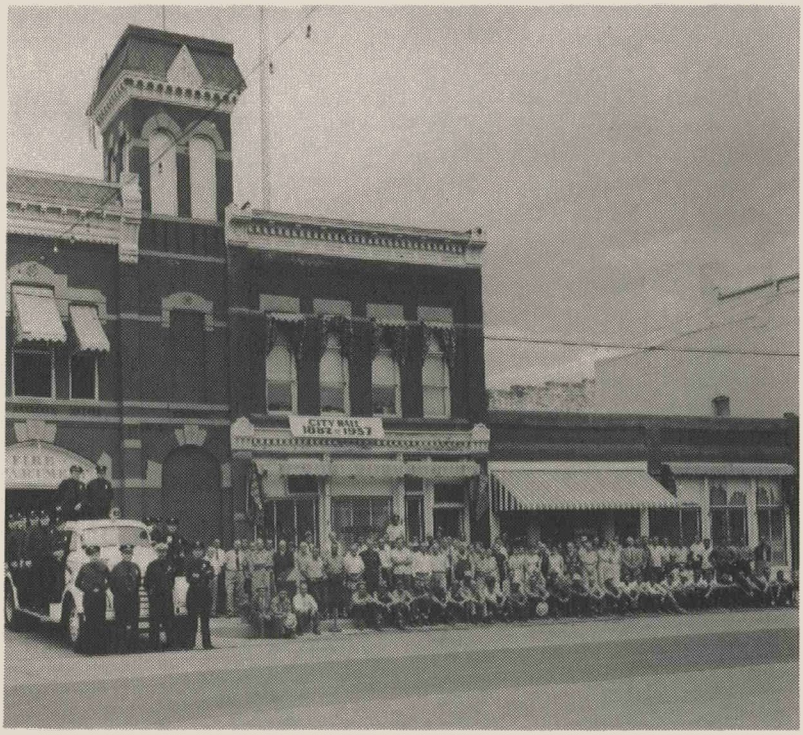
Federal power, destined to become the mainstay for Fort Collins and many other communities, came into its own in the 1950's. FDR, who died in April, 1945, had feared that the end of the war might herald the return of the Great Depression. He, therefore, had spurred planning for many new federal water and power projects, viewing them as a means of keeping America at work.



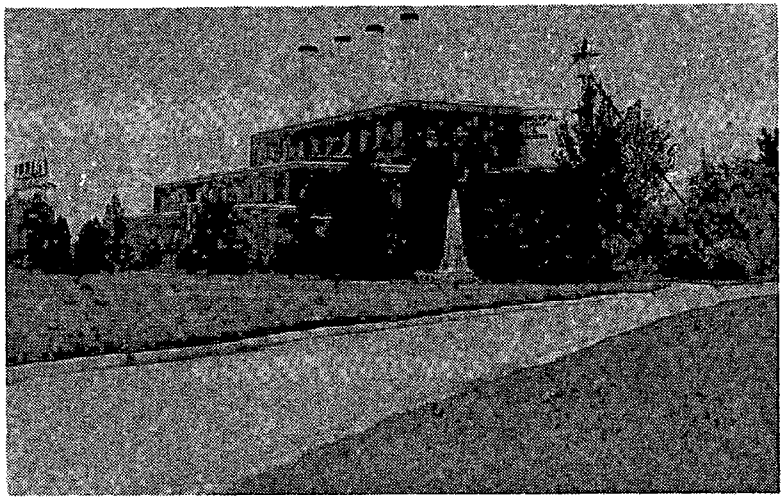
The new cooling tower going up on the Municipal Power Plant site in 1952. With the addition of a fourth boiler, new cooling facilities were required.

President Harry S. Truman, who succeeded FDR, continued those policies and also pushed for peaceful uses of the atom. It had been his fate to trigger the atomic bombs and he knew the awesome potential of nuclear power. Additionally, the economy during the Truman era was rolling so fast that even the Korean Conflict, which involved U.S. military forces beginning in 1950, was barely a glitch on the economic indicator charts.

President Dwight Eisenhower gained the White House in the 1952 election. During his tenure, reduced federal involvement was emphasized. As an example, budgets for the Bureau of Reclamation were sharply reduced. Still the Colorado River Storage Project was approved, becoming a prime power source for Fort Collins and much of the West. Despite the budget reductions, federal power capacity from 1950 through 1960, nearly tripled to almost 22-million megawatts. It would grow even more in the coming decade as President John F. Kennedy won the election in 1960 and launched a program of increased water and power project activity.

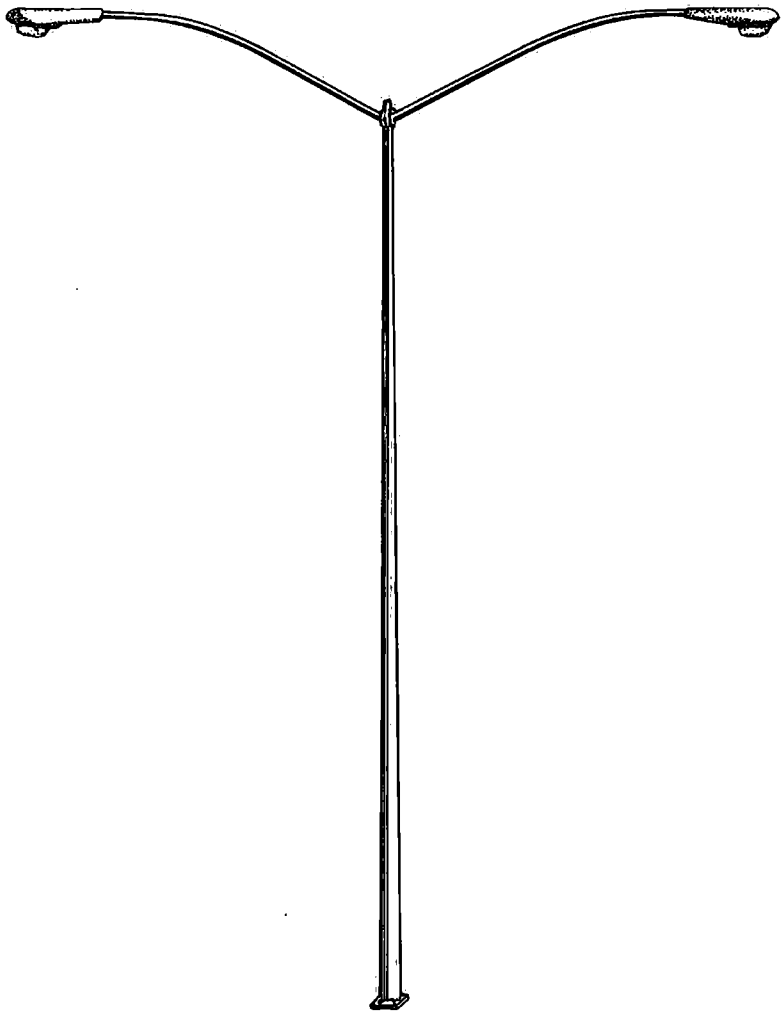


Growth of the city, and city services, required a new city hall which was sited at 300 LaPorte Avenue. All 1957 city personnel posed for this historic photo taken in front of the "Old City Hall" on Walnut Street.



The Municipal Power Plant in 1957 showing all four boiler stacks in place.

Troubled Days, But Better Ways: 1960-1969



This fixture had been installed on College Avenue in 1967. It was also used extensively on all main feeder streets and on some highly used residential streets. It is still in use today. The last incandescent lamp in Fort Collins was removed in 1967.

Some of the most turbulent times ever witnessed in America unfolded during the 1960's. Yet, some of the nation's greatest achievements were recorded amidst the turmoil.

The civil rights movement, often marred by violence, gained momentum during the 60's. President John F. Kennedy was assassinated in Dallas, Texas, in 1963, barely a year after he confronted Soviet military might off America's shores and brought the nation past the brink of war known as the Cuban Missile Crisis. U.S. military commitments to Vietnam, first made by President Eisenhower, continued under President Kennedy and his successor, Lyndon Johnson. As the military involvement grew, so did the frequency of often-violent anti-war protests. The "guns or butter" argument raged, as Washington tried to simultaneously finance a war in Vietnam and improve the lives of minorities and the poor through President Johnson's "War on Poverty."

The preservation of the nation's environment also became the focus of considerable attention and debate during the 60's. The West was the focal point of much of that debate. There were many in the West who claimed that the environment and the quality of life were every bit as

Drake Substation on the northwest corner of Drake Road and the Colorado and Southern Railroad tracks. Photo taken in the 1960's.

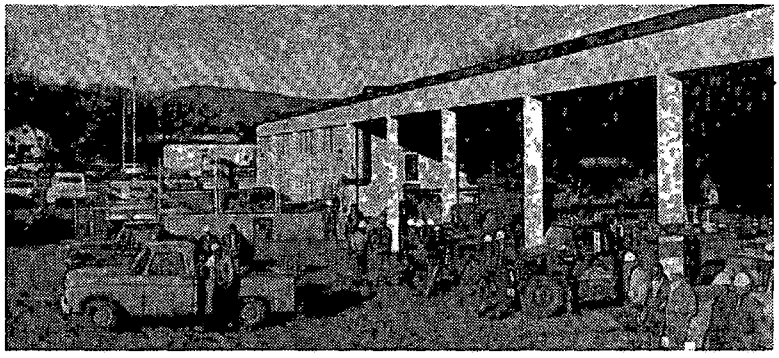
important as new power and water projects. President Kennedy gave new life to such projects when he came to office, but by the mid to late 1960's, it was clear that Congress would no longer be a "rubber stamp" to such efforts in the West or anywhere else. Congress passed the Clean Air Act, in 1963; the Water Quality Act, in 1965; and the Clean Water Restoration Act, in 1966. When Richard Nixon won the White House, in 1969, he pledged a comprehensive approach to enhancing and preserving the environment. The Environmental Protection Agency (EPA) was created a year later.

Electric utilities began to face new challenges in the struggle to keep up with power demands. The dwindling public support for federal water and power projects and the construction time hurdles created by the passage of numerous environmental bills in the Congress, were just a couple of the concerns. Signs of fuel supply shortages became visible. Inflation rates were climbing, contributing to higher fuel, maintenance, and construction costs. Power plants were being stretched to their limits.

The strain on the electric utility industry became dramatically evident one night in November, 1965, when 30-million people in the Northeast and adjacent sections of Canada were suddenly plunged into darkness. The "Great Blackout" as it became known, demonstrated that this nation's giant, interconnected electric transmission and distribution system was up against the proverbial wall.

The massive blackout led many utility leaders to realize that considerable attention had to be focused on research and development of

The 1967 ribbon cutting ceremony at the Fort Collins City Service Center, the new home of Light and Power. L-R: Harvey Bloom, David James, Stan Case, Mike Misel, and Dayton Johnson.



The dock area and Light and Power crews at the new service center in 1967.

more reliable transmission and distribution systems. The new systems had to be developed within the "new rules" of balancing financial pressures, questionable fuel supplies, environmental regulations, and growing electric energy demand. Electric utilities across the nation began to pool their talent to accomplish this "balancing act," planting the seeds for what, in 1972, became the Electric Power Research Institute (EPRI).

Likewise, the "Great Blackout" refocused attention on a debate over the advisability of centralized or decentralized power networks. The American Public Power Association (APPA), an organization of public electric utilities formed in 1940, had been talking about so-called joint action agencies thoughout the 1960's. The APPA leadership argued that with the "leveling off' of federal power supplies and with the potential for problems in massive interconnected systems, these smaller, more localized networks of electric utilities would be the wave of the future. The joint action agency idea was rejected by some who saw it as a threat to independence, but many others recognized the economic and system reliability potential. Those seeds fell on fertile soil in Fort Collins, where a full year before the "Great Blackout," a tender shoot that would flower into the Platte River Power Authority joint action agency, had already sprouted.

In 1963, a group of 31 municipal electric utilities, known as the Colorado Association of Municipal Utilities (CAMU), met to discuss statewide energy concerns. CAMU members decided to divide the state into quadrants to study power needs in each area. The quadrants would then be brought together into one statewide joint action agency. The Platte River quadrant, which included the municipal electric utilities in Fort Collins, Loveland, Estes Park, Longmont, Fort Morgan, Wray, Holyoke, and Julesburg, was the only one to move forward.

Stan Case represented Fort Collins in the process and recalled that Holyoke, Julesburg, and Wray dropped out in the early stages of the study. "The remaining utilities proposed the creation of a non-profit, Platte River Municipal Power Association, to their respective city coun-

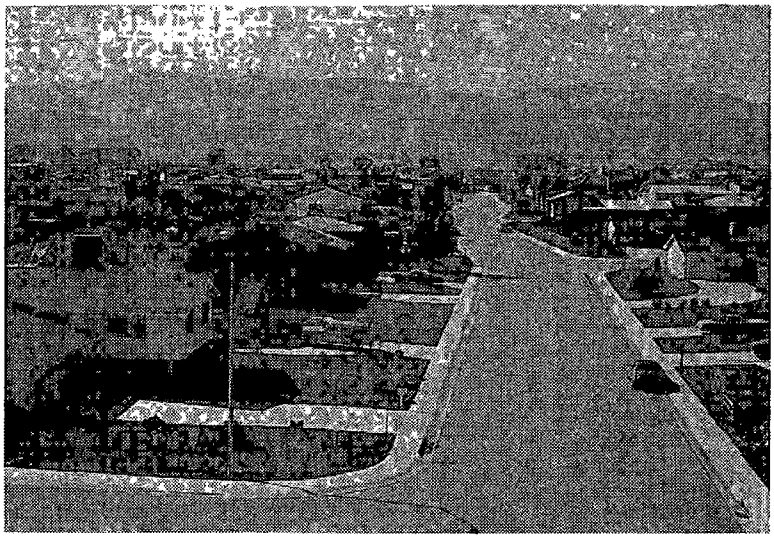
cils in July, 1964," Case recalled. "That alliance was finally realized in 1966. We set about studying what we would need in the way of a power plant. The Bureau of Reclamation kept finding more power to serve us, so we had a fair amount of time to conduct the study."

Case promoted the joint action agency effort from a stronger position after September 15, 1964. It was on that date that Case was appointed Director of the Light and Power Utility. He would hold the position for the next 17 years.

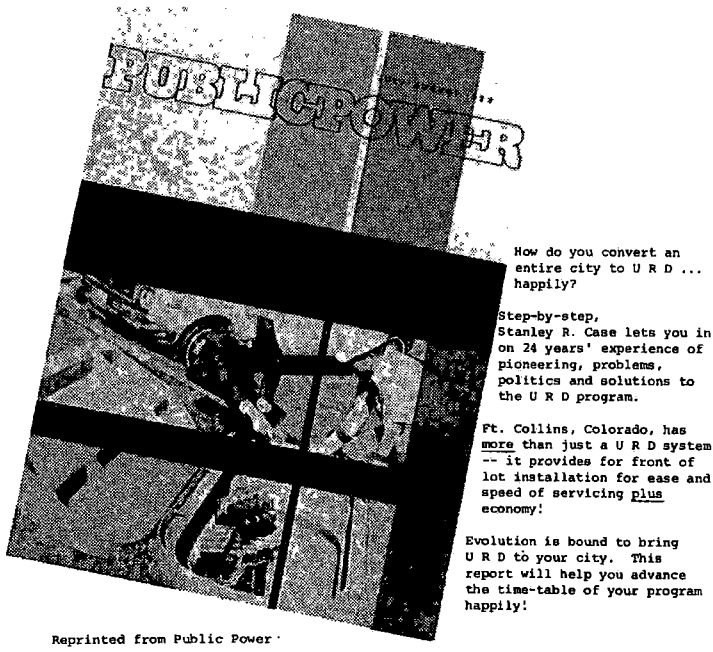
Case's appointment came during an occasionally stormy political period in Fort Collins. Palmes had retired as city manager at the end of 1961. The 71-year old Palmes was succeeded by Max L. Norris, who was removed just two years later on a 3-to-2 vote of the city council. Norris and the council had been in a dispute over the police chief.

Robert F. Boos was named city manager on September 1, 1963. Boos' tenure also encompassed only two years. He resigned in June, 1965, citing only what he called "problems with the council." Boos was succeeded by Tom Coffey on October 1, 1965. Coffey, a Nebraska truck-line operator, was a veteran of a protracted labor war with the Teamsters Union. Some said that experience served him well as he held the city manager's job into the 70's. Coffey left the post when voters approved an initiative that required the city manager to retire at age 65. A few years later voters rescinded the requirement.

When Case became head of Light and Power, the city's population had already climbed to 30,000. It would top 43,000 in the 1970 census. Electric energy demand was putting a strain on the power plant and that



Fort Collins Light and Power pioneered the underground utilities concept. Shown here is the spacious and clean effect provided in a residential area.



Robert Kost invented an underground fiberglass vault used extensively in the Underground Residential Distribution (URD) system in Fort Collins.

was among reasons Case so actively supported the joint action agency idea. In the summer of 1963, Case had advised the city manager and city council that, in order to keep pace with demand growth, a new generating plant would be needed in Fort Collins, no later than 1969. He had based his prediction on forecasts that by 1969, Bureau of Reclamation and Colorado River Storage Project power supplies available to the city, would be outstripped by electricity demand.

Between 1955 and 1963, two 10,000 kVa connections with the Bureau of Reclamation, a high voltage transmission loop, and seven distribution substations had been constructed to satisfy Fort Collins' growing energy appetite. The system expansion had been financed from available Utility funds.

The peak generating year at the power plant was reached in 1964, at 33.7-million kWh. That same year, the Utility purchased 64.3-million kWh of federal power in order to meet demand.

"Based on what was evident in 1963, it was obvious we needed a new power plant," Case recounted. "The Bureau of Reclamation, though, managed to keep coming up with sufficient, reasonably-priced wholesale power and we got surpluses from elsewhere. So, it was not

prudent to proceed with a new plant. At the same time, it was pretty clear that our power plant was close to the end of its life."

Continued system growth was reflected in two major construction efforts completed in 1967. The 4,000 kVa Drake Substation and a new Utility headquarters building were both opened that year.

Both Light and Power and the Water Utilities had outgrown their city hall quarters, and they were relocated in the Municipal Service Center constructed at 700 Wood Street. The $279,000 facility underwent expansion in 1972, 1976, and 1981 and still serves as home for the two utilities today. Three-fourths of the construction cost was paid from Light and Power funds and the remainder from Water Utility funds.

The Drake Substation was erected, along with 2.8 miles of 115 kV transmission line, at a total cost of $480,472. The project more than doubled the Utility's supply capability. Completion of the project contributed to even more customer savings. In 1967, Fort Collins customers were paying only 1.7 cents per kilowatt hour for their electricity, a half-cent drop from what it had been ten years earlier.

What made the Drake Substation and transmission line project even more significant, however, was the fact it was built with the environment firmly in mind. Although the substation site was, at the time, an open field, a low profile facility was erected. The switchgear, transformers, and related equipment are less than 20 feet high. Aesthetically pleasing single-pole steel structures with upswept arms were used to support the transmission line, rather than the standard H-frame wooden poles so popular in that day. These structures required much less right-of-way than their wooden counterparts.

The environmental concern reflected in the project received considerable attention at the time, even though such concern was really not new to the Utility. As far back as 1948, Light and Power had the environment (and most certainly, system reliability) in mind as the Utility tested underground distribution systems.

"They didn't have underground cable on the market in those days," Case recounted. "The military used it at Pearl Harbor, though, so we relied on war surplus for our first cable. Everything was makeshift."

Seventy-eight homes in the Circle Drive neighborhood were the first to be served by an underground system. A few years later, the Manse Addition in east central Fort Collins received such service. "We found that not only did underground systems improve neighborhood appearance, they were trouble -free," Case said. "Falling tree limbs don't break underground lines. Some in the industry thought we were crazy, but we were excited about it."

The practice proved so successful that, in 1968, the city council adopted an ordinance requiring that all new subdivision utility installations be underground. Coincident with that, technology had advanced to the point where submersible cable terminations and related equipment could be reliably placed in underground vaults. Vault technology, how-

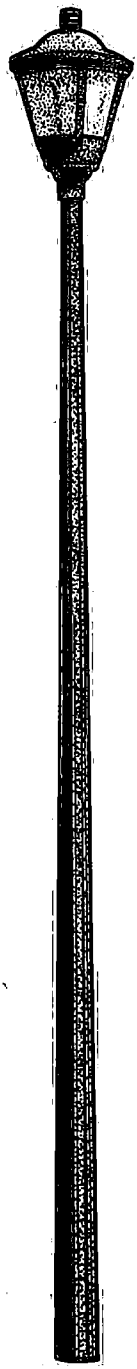
ever, was still not such that the installation of these distribution line junction boxes could readily be located anywhere other than along rear lot lines.

The Utility engineering staff had long felt that underground vaults ought to be located on front lot lines so they could be readily accessed for routine maintenance and emergency repair. It was at this point that the staff ventured into the world of research and development.

Headed by then senior electrical engineer Robert Kost, the staff tried to design a vault that would serve the purpose. Enlisting the aid of Robert Jones, the production manager for the Denver Equipment Division of Joy Manufacturing Company, Kost came up with a design and a prototype vault which was tested in March, 1969, at an apartment complex, "We chose fiberglass reinforced polyester as the basic material," Kost said. "The material resists corrosion and is light, yet possesses a high strength-to-weight ratio."

The test vault proved so successful that on December 31, 1969, Kost and the City of Fort Collins applied for a patent on the vault. Kost and the City went through many gyrations with the U.S. Patent Office, but finally, on June 27, 1972, a patent was issued. Joy Manufacturing in Denver then began mass-producing the vaults which are still in use today. Royalty benefits are shared by Kost and the City with the City getting a 75 percent share of such payments.

By the time the patent was approved, nearly 40 percent of the Utility's customers were served by an underground network. Today, in spite of the rapid growth that has occurred, 80 percent of the Utility's customers have underground service. Utility staff know-how, experience, and leadership had met the challenge of the 60's.



Curbing The Craving: 1970-1979

This decorative streelight fixture was first used in residential areas in 1972. It is still being used today.

Suddenly, there was an energy crisis! At least, it seemed that way in 1973, when the Organization of Petroleum Exporting Countries (OPEC) decided to shut down the oil lifeline that fueled the United States and most of the free world. Almost overnight, the Arab Oil Embargo plunged the nation and world into what became a deep recession. It was well after that shock and another Mideast supply interruption following the 1979 Iranian Revolution, that the oil-dependent nations realized they had been standing in the shadow of an energy crisis for a long, long time.

America had become comfortable with cheap energy. A little waste did not seem bad. Home insulation was not something to worry about, nor was the price of gasoline which cost only a third of what Europeans had to pay. Americans paid little heed to those who had long advised that so much dependence on imported oil could spell trouble.

America instead was preoccupied with inflation, leaning heavily on the soaring Consumer Price Index to gain higher wages, higher product prices, increased service charges, and larger benefits. Occupied as well, with an increasingly unpopular war in Vietnam, the Watergate Scandal in Washington, and the expanding government competition for the nation's money supply, the average American did not comprehend how much the nation's economic well-being was linked with its energy supply.

By the time the clock ran out on the 1970's, Americans saw an end to the Vietnam War; witnessed the resignation of President Nixon in the wake of the Watergate Scandal; realized their dependence on expanding government services and demands for higher wages and benefits helped feed inflation; and learned that their economic welfare depends, in large measure, on the nation's energy supply.

Throughout the electric utility industry, the days of declining unit prices came to an end during the 70's. Inflation pushed up fuel, transportation, construction, and labor costs. The price of oil, used to fire many power plants, soared 148 percent in the wake of the Embargo. It climbed an additional 81 percent following the 1979 Mideast supply interruption. Operators of coal-fired generating plants saw their fuel costs skyrocket 23 percent the year of the Embargo and more than 52 percent the year thereafter. American motorists witnessed a 43 percent price jump from 1973 to 1974 and gasped at another 75 percent increase between 1979 and 1980.

Case took note of the local situation in a 1975 memorandum: "From 1970 to 1975, the cost of utility poles climbed 350 percent, underground cable went up 142 percent, and streetlight pole costs climbed 143 percent," he reported. Case said that concrete underground vault costs had more than tripled, noting that the Utility had switched to pre-fabricated vaults in 1974 in order to reduce expenses.

Cost-cutting was the byword, but the economic pressures were just too great. Electric rates had to go up. In Fort Collins, customers had enjoyed seven rate reductions from 1955 through 1971. The first of many rate increases came in 1972. By 1977, the average residential customer

Randy Swain, Jim Scheller, Chuck Smith, and Billy Thompson (in vault) make up cable terminations used in a typical underground installation.

was using 440 kilowatt hours of electricity per month, paying an average bill of $15.14. The cost per kilowatt hour, 3.4 cents, was twice what it had been ten years earlier. The only saving grace was that the unit cost was still under the 5.8 cents per kilowatt hour levied 40 years before, when the power plant went on line.

Utility customers everywhere cried for rate relief. In the fall of 1978, the Fort Collins city council created a nine-member Citizens Advisory Committee on Electric Rate Reforms. After nine months of study, the group recommended several measures that were implemented by the Utility.

Primarily, the citizens advisory committee called upon Light and Power to educate classes of consumers on the rate forms applicable to them and to assist customers with energy conservation efforts. The group asked that the duties of an energy conservation officer be formalized to carry out these recommendations.

The Utility had held public meetings and had stepped up its energy conservation information campaign through the news media from 1977 through 1979. In response to the committee, the Utility assumed a more formal posture by establishing an energy services section. That move came in 1980, the same year the Utility established the Residential Demand Rate to better serve Light and Power's all-electric residential customers.

The utility bill rebates to the elderly and low-income customers were also increased. Such rebates had been instituted in the early 1970's. At

the suggestion of the rate study advisory group and a separate citizens' tax review committee that had also been created by the city council, the rebate amounts were increased.

Inflation was not alone in contributing to the customer rate hikes in Fort Collins. Costs associated with the work of the Platte River Municipal Power Association (PRMPA) also had an impact.

The city councils in Fort Collins, Loveland, Estes Park, and Longmont put the power wholesaling agency into operation in July, 1973. A month earlier, longtime utility veteran Albert Hamilton had been hired to guide the fledgling joint action agency. Hamilton came from a California engineering firm and had had experience with the giant Tennessee Valley Authority and with several overseas electric utilities.

In itself, the creation of PRMPA did not contribute to rate hikes. What did contribute were the charges linked with financing PRMPA's first generating facility. The four cities had purchased an 18 percent share of the Yampa Power Plant at Craig. Groundbreaking took place in September, 1974, and Yampa began supplying power in 1979. In combination with federal sources, Yampa power is expected to be sufficient to meet the four cities' needs until 1987 or 1988.

In 1975, planning began on the Rawhide Power Plant, located about 20 miles north of Fort Collins. This project, too, required bond financing. Financing for Yampa and Rawhide, coupled with inflationary pressures, led to Fort Collins electric rate increases totaling 99.7 percent from 1972 to 1980. During that period, the purchased power costs, which included the Yampa and Rawhide debt financing, climbed nearly 230 percent.

John Lindsay and Karen Mink rehearse a utility demonstration known as "safety house" presented to school children to illustrate safe home electrical practices.

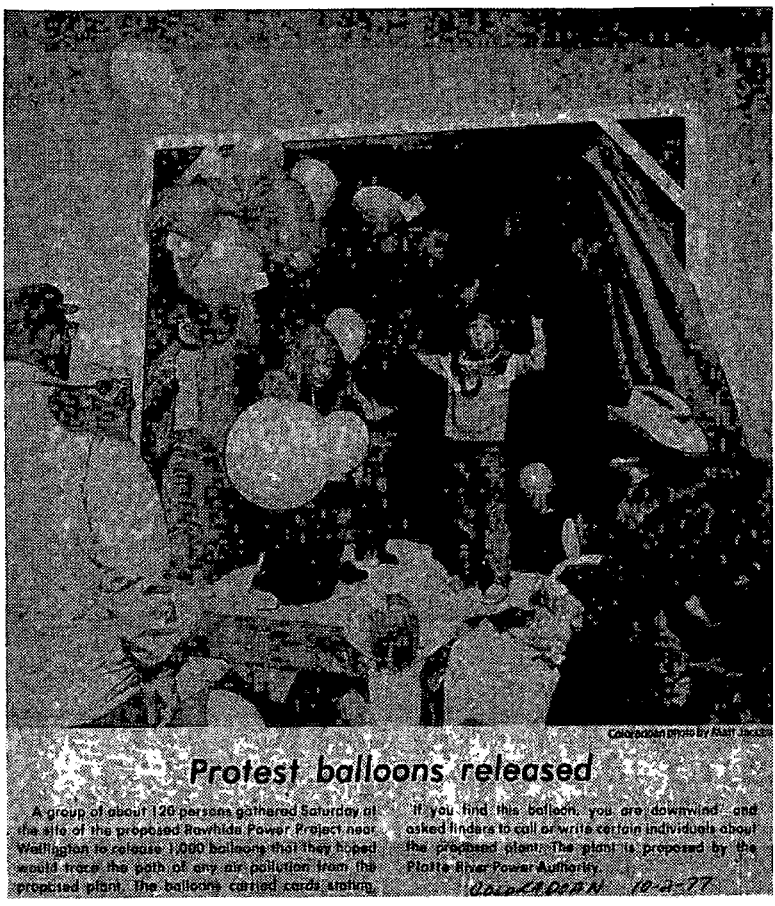
Since purchased power expenses make up 70 percent of what is charged Utility customers, Light and Power, in effect, absorbed most of the inflationary impact that would have gone to customers. The Utility accomplished this through added emphasis on productivity and operating efficiency improvements.

Because of Colorado constitutional constraints, state voters had to approve an amendment which would give PRMPA government entity status and the ability to market bonds. The voters approved in the 1974 general election. It was then that PRMPA became what it is today, PRPA, or, the Platte River Power Authority.

City council and utility leaders from the four cities, who sat on the PRPA board of directors, consciously included the power plant project expenses in the purchased power charges that were assessed the member communities. With inflation rates spiraling toward and reaching double-digit levels, the board felt that passing project costs along to customers at the end of construction, would be too much for ratepayers to bear. The board softened the blow and took advantage of occasional bond market improvements to refinance outstanding bonds at lower interest rates.

From 1975 when planning began, until September, 1979 when ground was broken, the Rawhide power plant project was controversial. The original site selected was in Weld county, but it was rejected by the Weld county commissioners. The present site was accepted by the Larimer county commissioners on August 25, 1977. For the following two years, the project site, need, environmental impact, and social im-

A 1977 public hearing at Rocky Mountain High School. W. Justus Wilkinson was among those addressing the issue of the need for the Rawhide Power Plant.



Protest balloons released

A group of about 120 persons gathered Saturday at the site of the proposed Rawhide Power Project near Wellington to release 1,000 balloons that they hoped would trace the path of any air pollution from the projected plant. The balloons carried cards stating, "If you find this balloon, you are downwind" and asked finders to call or write certain individuals about the proposed plant. The plant is proposed by the Platte River Power Authority.

pact were hotly debated in hearing rooms, courtrooms, and in the State Capitol. Final site approval came on March 26, 1979 and ground was broken that September 8. Construction began in May, 1980. Exactly one day ahead of schedule, the first commercial power was produced at Rawhide on March 31, 1984.

Even though Rawhide and Yampa power supplies were years away, a case could not be made for maintaining the Fort Collins power plant. The soul of the Utility system since 1936 faded into eternity in September, 1973. As Case put it, "When we closed the plant, it was providing less than ten percent of our system needs. Besides that, we couldn't get needed parts anymore. Our people were literally using chewing gum and bailing wire to keep it going." Beyond that, coal which cost only $3.60 per ton four decades earlier, had already topped $20 per ton in 1971. During the final year of generation, the power plant operating deficit was more than $200,000.

Signing of the first Rawhide Power Plant bond issue. L-R: Bob Decker, Don Storeim, Albert Hamilton. Stan Case is seated.

When the plant gasped its final breath, the operating staff had been pared to about a dozen people, most of whom had already been trained for other jobs in the Utility or other city departments. Staff and many of those who had toiled at the plant over the years, gathered that September morning to say farewell and to affirm that the death of an old friend would come with dignity.

"It was not easy for any of us to say goodbye," Case said. "It had been a thing of beauty with goldfish in the fountain and shady apple trees on the grounds, when I worked there in my college days. Inside, it was a place where a lot of friendships were made. It is filled with fond memories for many."

Today, the power plant that rose from a trash heap during the Great Depression to nurture a vibrant community, remains as more than a monument to the past. After serving as a Utility substation site, as a warehouse, and even as a training facility for various groups, it is being transformed into a visual arts center. Private groups and individuals are promoting the venture, which will not entail any expenditures on the part of the city.

With the 1973 power plant closure, Fort Collins relied totally on federal power sources for the remainder of the decade. Fortunately, those sources were sufficient to cover the increased demand that was fed by a 20,000 population increase over the decade. Demand and Utility

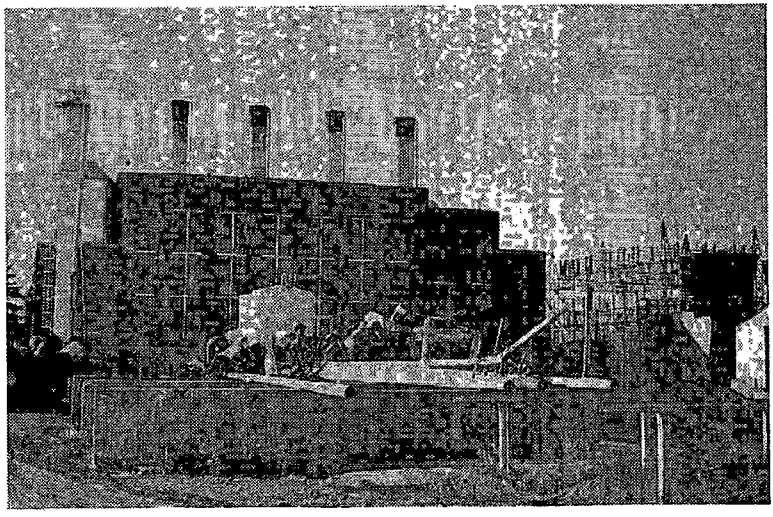
customer numbers likewise grew, even though the Utility did lose over one-thousand commercial customers who were forced to close their doors during the deep, 1973-75 recession.

Recession cycles locally were softened by two significant events which contributed to electric system growth. First, a nationwide natural gas shortage during the winter of 1976-77 triggered a switch by many to electric heating systems. Second, supporters of "no growth" and "slow growth" policies in the community, forced an election on an ordinance which would have moderated the Fort Collins growth rate. Anticipating possible voter approval, builders and developers forged an extraordinary building boom right in the midst of a recession. The proposed ordinance, by the way, was rejected.

Keeping pace with community growth, the Service Center was expanded twice. Other city departments grew into a new city hall located adjacent to the one built 20 years earlier on LaPorte Avenue.

City Manager Robert Brunton spearheaded the new city hall project. He had succeeded Coffey in 1972, coming to Fort Collins from the city manager's post in Elgin, Illinois. Brunton resigned in 1977 to accept a public works post in Arizona. That October, John E. Arnold, the city manager at Minot, North Dakota, was appointed to succeed Brunton.

The Brunton and Arnold administrations both fostered energy conservation and the use of alternative energy resources. Brunton promoted solar heating in the design of the new city hall. City fleet vehicles, powered by electricity, compressed natural gas, and propane were an early Arnold era innovation as were computerized energy system controls in city buildings.



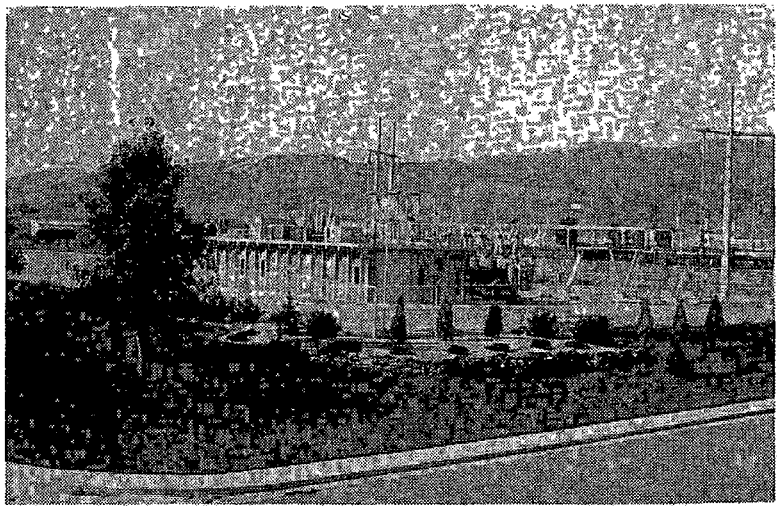
Dismantling of the Municipal Power Plant which was retired in September, 1973.

At Light and Power, planning began in the mid-70's on a SCADA (Supervisory Control And Data Acquisition) System. The computerized system, which continually monitors the Utility's distribution network with a minimum of manpower, went into operation in 1979. Today it still serves as a model for other electric utilities and is being upgraded.

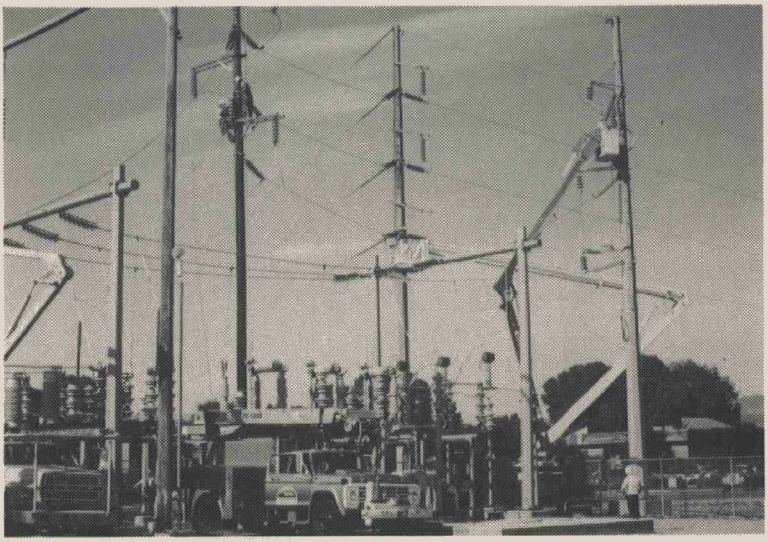
Many in the industry drew upon Light and Power's efficiency, conservation, and joint action agency experience. Public electric utilities became aware of the Fort Collins experience through Case, a very active member of the APPA governing board. In 1975, the APPA elected Case president of the 2,000-member organization.

At a time when electric demands declined nationally and when operating cost mounted, Case used moderate, yet forceful tones in putting his APPA office to work on behalf of the entire industry. Case and the APPA promoted research and development long before the federal government moved in that direction with the creation of the Energy Research and Development Agency (ERDA) in 1974. Case held out hope for a national energy policy, especially in 1977 when President Jimmy Carter reorganized ERDA into the cabinet-level Department of Energy (DOE). A coordinated federal energy policy never materialized, although President Carter and President Gerald Ford before him, did try to set the nation on a course of energy independence.

As the decade closed, Case looked back on what had been a transition period for not only the industry, but for Light and Power. The Utility had taken steps to assure the community's energy future through the PRPA joint action agency venture. It had gained greater operating effi-

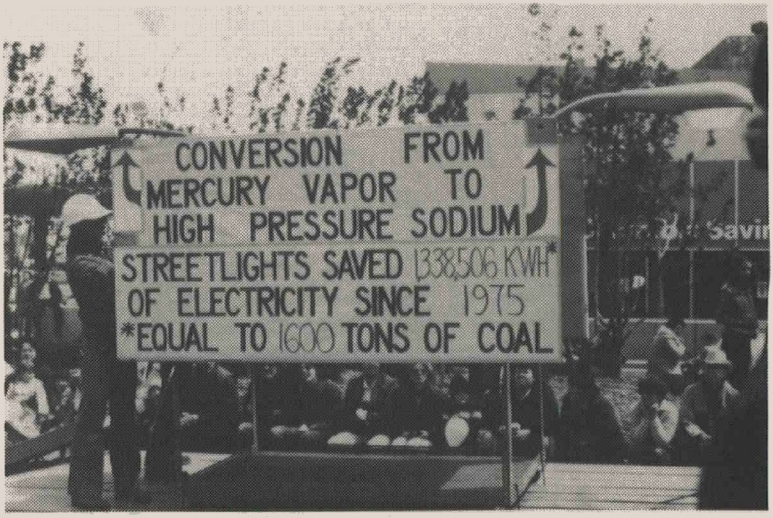


The Overland Trail Substation which was completed in 1967 and which served the west side of Fort Collins.



The Drake Substation was expanded in 1979 to accommodate new service to the south.

ciency through the SCADA System and numerous other measures. It had worked more closely with customers in formulating rate policies. The Utility, too, had moved into the full service utility mode, advising customers about ways they could conserve all forms of energy, not just electricity.



A Light and Power parade entry in 1979 which emphasizes energy savings.

As Case summed up the decade in a late 1979 interview: "In the old days, the more you could sell, the cheaper the cost. Now, the idea is conserve power for all you're worth. Heck, we have to."

Times had changed and more change was in store.

Ed Koski installs a new energy efficient lamp in an existing fixture on West Mountain Avenue as part of the long range streetlight changeout program. The program is aimed at maintaining existing levels of streetlighting while reducing the amount of energy used.

New Directions: The 1980's

This metal halide lamp and modern fixture were installed in the downtown area in 1979, concurrent with the downtown redevelopment project. It is still being used exclusively in the downtown area today.

Based upon what is evident so far, the 1980's can be termed a decade of new directions.

Fifty years ago, FDR and Congress created great numbers of new programs and agencies to lift the nation out of the Great Depression. A half-century later, President Ronald Reagan and Congress are reducing federal programs and expenditures in hopes of erasing a monumental federal budget deficit.

Five decades ago, Fort Collins citizens created the Light and Power Utility and built a power plant to gain reasonably-priced electric power. Today, local citizens have the same expectation through a joint action agency wherein four cities own and operate a power plant.

In 1935 and for many years thereafter, power plants were built at a rapid clip to meet soaring demand. In the 1980's, demand growth has slowed. Conservation of energy and the application of new technology are used to forestall the day when new power plants will be required.

Fort Collins citizens perhaps learned better than most, that energy conservation is vital in the face of uncertain supplies and rising costs. They learned that using alternative energy forms can conserve traditional fuels and save money. They realized, that even during prosperous times, there are always those who need help. Local residents quickly grasped the fact that they depend upon each other and their fellow citizens across the land.

Learning lessons is one thing. Applying them is another. Light and Power began applying the lessons even before the chaotic 70's ended. The applications were expanded when Bill Carnahan was named to head the Utility in the 80's.

Case retired in 1981, after more than three decades of service. He was succeeded by Carnahan, a man with whom Case had established a working relationship 15 years earlier. A student at Colorado State University, Carnahan worked with Case while designing a campus electrical distribution system. The work began in early 1965 and lasted until Carnahan's graduation in June, 1966. The contact launched Carnahan on a career that has paralleled that of his predecessor.

Like Case, Carnahan is a CSU electrical engineering graduate. Both have served on the PRPA board of directors. Both have headed the CAMU organization. Both have been active APPA board members. In 1986, Carnahan will assume the APPA presidency, a post Case held in 1975.

Carnahan had led the Lamar Utilities Board for ten years, when he accepted the Fort Collins post. Carnahan said the Lamar experience helped him recognize that Fort Collins Light and Power was well-grounded as an electric service provider. That, he said, cleared the way for work on a new direction or goal: establishment of an ongoing, working relationship with customers to meet their overall energy needs.

"The transition into this working relationship was easier in Fort Collins than it would have been in most other places," Carnahan said.

"Ground had already been prepared for future energy needs through PRPA. The Utility was already working with customers in conservation areas. This allowed us a little time to step back, take a look at the big picture, and begin some strategic planning."

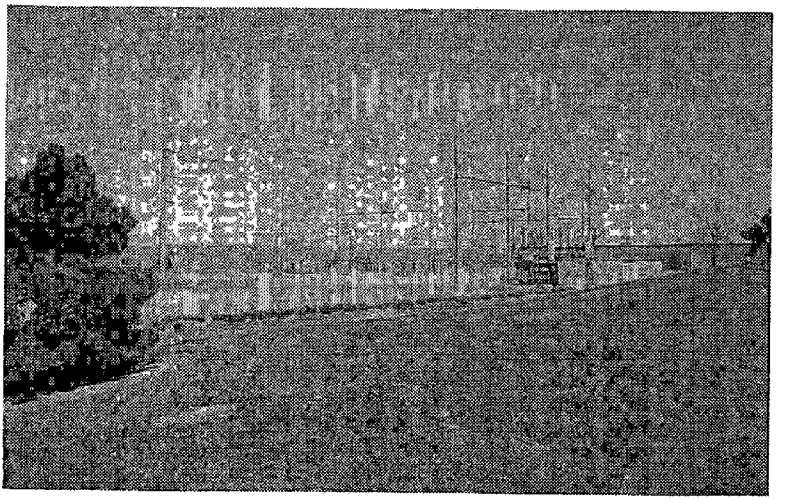
Enlisting the aid of citizens, the city administration and city council, the Utility staff in 1982, began strategic planning with what is known as the CHOICE (Community-Held Options for Intelligent Choices in Energy) Process. The group studied past community energy consumption patterns and projected the anticipated consumption through the year 2000. The group did not restrict itself to electric energy, but studied all energy consumption in the residential, commercial, industrial, governmental, and transportation sectors of the community. The technical findings were outlined at public meetings where citizens were asked to suggest ways to meet or delay the projected energy demands.

Bill Carnahan (left) receives the "Pacesetter" award from Governor Richard Lamm on behalf of Light and Power in 1984. Other recipients from Fort Collins are Jim Welch and Bill McCaffrey (far right).

Public comment during the initial year of the process contributed to a number of accomplishments. Two very visible results of the CHOICE Process were noted in 1984 with the creation of the Solar Services Agency within the Utility and the opening of an Energy Information Center at the Public Library. Active and passive solar energy information and related data are available through the Solar Services Agency. Information on all energy forms can be obtained from the center in the Library, in written form and from microcomputer systems.

Additionally, in 1984, new CHOICE citizen advisory board members were selected by the city council. The group again solicited public comment on energy concerns and this year is issuing recommendations for dealing with those concerns. One recommendation already issued will result in a thermographic scan of the community this winter. An infrared camera, mounted in a plane, will be used to photograph the city and detect heat losses through the roofs of homes and other buildings. The scan will help customers decide if their attic insulation levels should be increased.

The working relationship with customers was strengthened in 1983 when the Utility conducted a customer attitude survey. The survey pointed to a desire for more energy information. That prompted the expansion of the Utility's customer services branch into what is known today as the Energy Services Division. The survey also prompted a year-long municipal solar utility study, and that led to the creation of the Solar Services Agency, which is an integral part of this Division. This Division played a key role in the creation of the Energy Information Center in the Library. The Division's services may again go in new directions



The Harmony Substation was completed in 1981 to serve the southeast portion of Fort Collins.

The Trilby Substation site was acquired in 1981. It will be developed to handle future growth to the south.

because, in 1986, the Utility plans another customer attitude survey which may point up new needs and desires.

The Utility created other programs to meet the challenges of the 80's, including REACH (Residential Energy Assistance through Community Help). The REACH Program helps low-income and elderly customers cope with high energy bills. It is similar to many dollar check-off programs in that Utility customers can add a tax-deductible dollar or more to their monthly payments to help the less fortunate pay their energy bills. The program is unique, because instead of direct financial assistance, the qualified low-income and elderly customers receive home weatherization services. "We attack the root cause of such financial difficulty with this program," Carnahan said. "By tightening those homes, we cut energy losses and reduce the size of utility bills not only for the first year, but for many years to come. The more we conserve now, the longer we can wait to bring new, and perhaps more costly, energy sources on line."

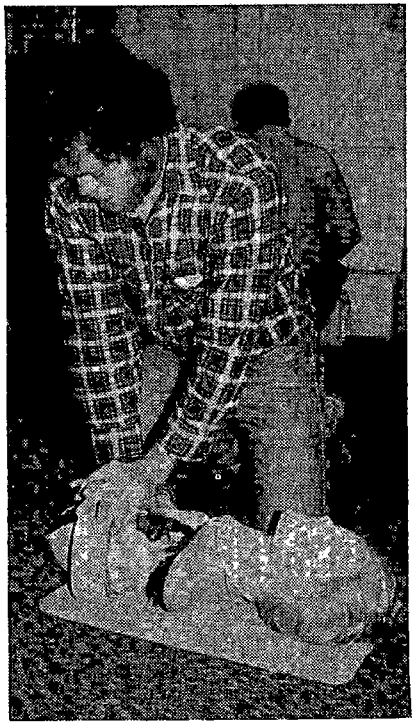
The same approach applies to another Utility effort, the ZILCH (Zero Interest Loans for Conservation Help) Program. The Utility provides no-interest loans for various kinds of home weatherization. This conservation program is open to a wide range of customers, not just those who are financially disadvantaged.

In early 1985, the Utility developed still another program, wherein customers can help customers and all can gain. The SCORE (Solar Conservation and Other Renewable Energy) Program is a mini-bond pro-

gram. Bonds in $500 denominations are sold at the City's Utility Billing Office to finance conservation and renewable energy projects planned by customers. The customers purchasing the bonds earn tax exempt interest on their investment and the knowledge that they have helped the community conserve traditional energy resources and make use of renewable resources.

Another program launched in the 80's was HOT SHOT, a load control effort designed specifically for customers with electric water heaters. Under HOT SHOT, electric water heater customers allow the Utility to shut off their units for brief periods during times of peak system demand. In return for permitting the Utility to shut down those appliances, the customers receive a $50 annual rebate. "The annual rebate equals what the Utility saves in terms of purchased power costs," Carnahan said. "This load control program saves us money at the wholesale level, and it's certainly fair to pass the savings along to the customers who helped us achieve the savings." The load reductions are gained by means of radio-controlled devices that Utility crews attach to the electric water heaters. More than 1,200 customers participated in HOT SHOT this past season.

The HOT SHOT program is an example of another new direction taken by the Utility in the 80's. "Technological advances come so fast



Tom Rock demonstrating the proper technique for cardio-pulmonary resuscitation. Safety training such as this is an integral part of Light and Power training.

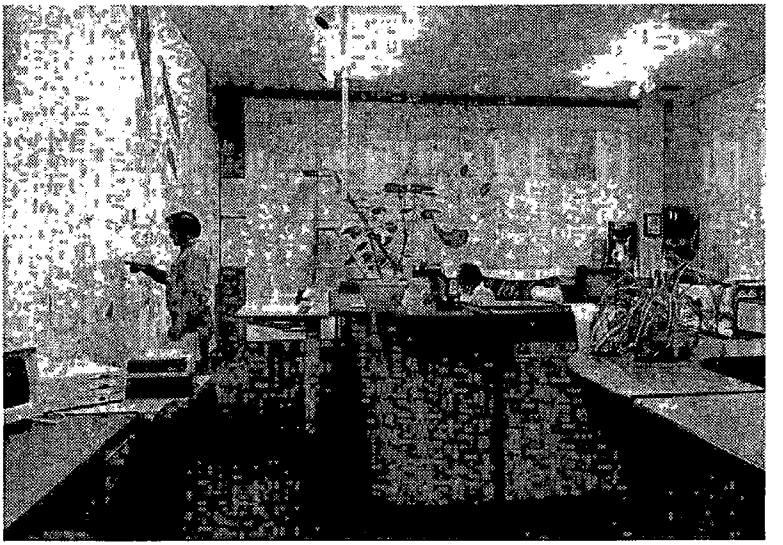
In 1984, computer work stations began to appear in Light and Power offices. Here, Ginger Purvis accesses the citywide communication system.

these days, it's difficult to keep up," according to Carnahan. "But, we do our best and apply new technologies, wherever we can, to achieve the most reliable, cost-effective system for our customers."

One of the earliest and most significant technologies applied by the Utility is the SCADA (System Control And Data Acquisition) System. This computerized "nerve center" permits 24-hour surveillance of the entire Utility system with minimum manpower. Outages and potential system problems are quickly spotted with this monitoring system, resulting in fewer problems and lower labor costs, all of which means savings for Utility customers. Design work on the present SCADA system began in the mid-70's and operation began in 1979. Plans are nearly complete for an upgraded SCADA system. It should be in operation long before the decade of the 1980's comes to a close.

More than half the Utility's 110-member work force make daily use of computers to do everything from writing letters to scheduling job assignments. Computer-assisted mapping and drafting systems began arriving this year.

According to Carnahan, "The day is almost here when everybody in the organization will use a computer of some kind to carry out his or her job. It doesn't stop. We're already using cable television for communications. It appears fiberoptics may be next on the communications scene. Maybe we are even destined for a day when cities will share a communications satellite. Things move so rapidly anymore that you just can't preclude any possibility."



Ron Mattern (standing) and Jim King work in the Supervisory Control And Data Acquisition (SCADA) center, the computerized "heart" of the Light and Power distrubution system.

The Utility's application of technology and its energy conservation and renewable energy programs have served as models for many utilities, and they have been recognized with numerous awards.

During the 80's, the Public Technology Institute, which tracks the application of technology among public institutions, recognized the HOT SHOT program with a special award. The Colorado Office of Energy Conservation has twice recognized the Utility with awards. The U. S. Department of Energy in 1984 cited the Utility with its highest award, for the implementation of coordinated conservation and renewable energy resources programs. APPA energy innovation awards have come to the Utility for the same reasons. And, in 1984, the highest award presented by the APPA, the E. F. Scattergood System Achievement Award, was presented to Light and Power. The award recognized the overall, day-in and day-out, achievement by all 110 Utility employees in serving the community. Providing broadbased services in the most efficient manner possible is the bottomline factor in determining the winner of the coveted Scattergood Award.

System efficiency can be measured in many ways. One of the best yardsticks is keeping costs in check. Maintaining control of costs has always been a high priority, but it took an added significance in 1983. In 1983, the Utility decided to conduct cost of service studies on an annual basis.

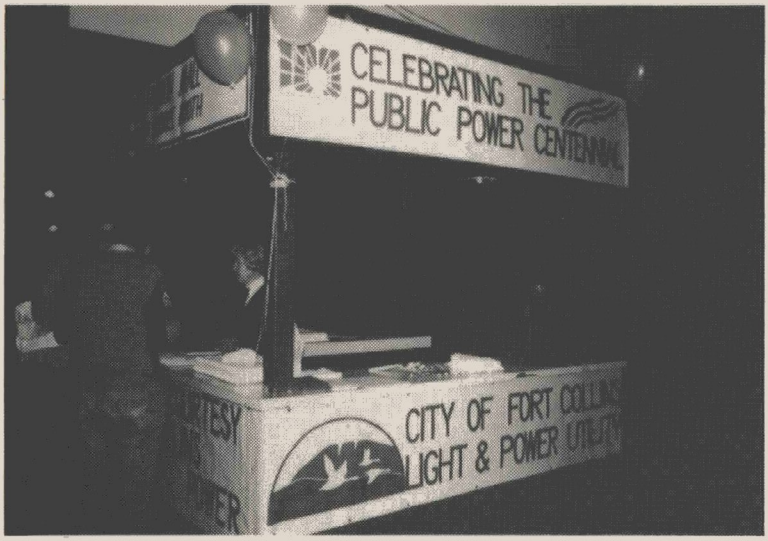
Cost of service is just what the term implies. It means the Utility

bases its customer rates on the cost of purchased power plus what is required to adequately operate and maintain the system.

As is the case with any sound enterprise, customer rates were always based on the so-called "cost of doing business." However, under the cost of service concept applied by the Utility, all facets of the "cost of doing business' are explored in detail. Cost-cutting measures applied by the Utility are carefully studied to make absolutely certain they are effective. Utility expenses undergo detailed scrutiny to assure that they are at the minimum level. Expense projections are made on the best data available.

The detailed cost of service analysis was first employed in 1973 for determining 1974 customer rates. Light and Power was not equipped with sufficient data, nor the means of adequately processing the data. As a result, a consultant was retained to conduct the study. That study was ordered none too soon as the Arab Oil Embargo occurred that same year, further fueling already dire predictions that energy prices would soar out of sight by 1980.

For Fort Collins, Loveland, Estes Park, and Longmont municipal electric customers, rates were already climbing at a pace beyond those witnessed nationally in the mid-1970's. These customers not only shared the burden of double-digit inflation, they were carrying the load of financing the Rawhide power plant project. In Fort Collins alone, customer rates skyrocketed 265.7 percent from 1972 to 1983. That increase was nearly twice the rate of inflation. There was no doubt in the



Light and Power has an active information program. Here, Kitty Black meets with two customers at a public information booth in the Foothills Fashion Mall. Photo taken in 1982.

In 1983, Light and Power employees toured the nearly completed Rawhide Power Plant, a Platte River Power Authority facility.

minds of the Utility staff in 1983, that the time had come for detailed and annual cost of service studies.

By applying what it had learned in the 1973 consultant's study and by researching the subject thoroughly, the Utility staff had, by the early 1980's, amassed sufficient data and adequate computer technology to conduct such studies on its own. In 1983, the last in a string of nearly eleven consecutive years of double-digit rate increases, the Utility was sufficiently equipped to handle the cost of service studies on an annual basis.

There were smiles aplenty at the conclusion of that first annual study in 1983, because it showed that in 1984, customers' rates could be reduced by an average of 5.7 percent. The Utility wasted no time in passing the rate reduction recommendation along to city council. The council acted just as quickly, ordering the rate reduction effective November 1, 1983, a full two months ahead of the start of the 1984 budget year.

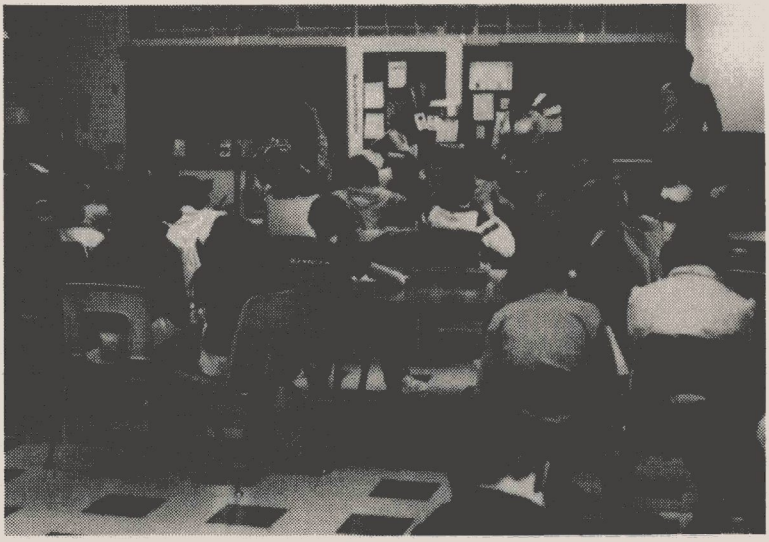
The first annual cost of service study reflected the fact that the Rawhide project financing obligations had successfully been met, and that inflation had been reduced from the terrifying levels noted during

the 70's. The study also projected that no rate increases would be needed in 1985. That projection was verified in the 1984 study and so, in this Golden Anniversary year of the Utility, customers face no rate increases. The 1985 study, now in its final stages, indicates that no rate increases will be required in 1986 either.

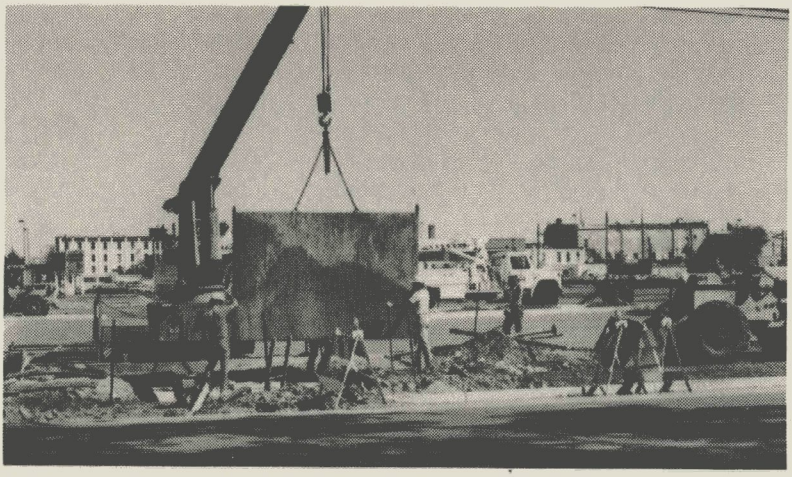
Two significant developments in 1984 also promise to impact system efficiency in the future. At the first of the year, the Utility undertook an energy efficient community demonstration project. In late 1984, City Manager John Arnold instituted a reorganization plan which merged Light and Power and the Water Utilities.

Working with the APPA and a local developer, Everitt Enterprises, the Utility in January, 1984, began to search for the latest available energy technologies which could best serve a new, mixed-use community. The Everitt firm is developing a community known as OakRidge on 287 acres of land at the southeast edge of the city. Proposals submitted by 125 energy system manufacturers worldwide are now being assessed to determine which system, or combination of systems, would best serve the commercial, industrial, and residential mix. The Utility hopes the demonstration project will serve as a model for future development in Fort Collins and in the communities served by the 2,000 other APPA-member electric utilities.

The reorganization ordered in late 1984 elevated Carnahan to the position of Utilities General Manager. In the post, Carnahan oversees both Light and Power and the Water Utilities. Robert Kost, who had



Doug Swartz leads a school program on alternative energy. The Utility is involved in providing all kinds of energy information to students in Fort Collins.



Setting an underground vault in 1983 at LaPorte and North Howes in preparation for the downtown redevelopment project. Crewmembers pictured are Bob Singleton, Dale Daggers, Mike Spight, and Kevin Murray.

been Carnahan's deputy, was named Director of the Light and Power Utility. Mike Smith was elevated to Director of Water Utilities. He and Kost report directly to Carnahan.

Kost said that under his leadership, Light and Power will continue to work closely with customers and continue to use technology to improve system efficiency and customer services. "Our Utility goal statement, formulated many years ago, was revised in recent years to meet

Bill Fisbeck, Tom Rock, B.J. Mosness, and Greg Smith complete the phasing of transformers at the new Poudre Valley Hospital addition in 1984.

changing conditions," Kost said. "We strive to be a full service energy utility and not just an electric power provider. Our customers have given us this direction. It has worked well and the best we can do is to make it work even better."

Carnahan said greater efficiencies can be achieved through reorganization. "We will continually watch for areas where we can do things jointly," Carnahan related, "We won't combine any operations just for the sake of combining them, but when it becomes evident that efficiency can be improved through combining operations or functions, we'll do it." The two utilities are already sharing some equipment. The two staffs have already assisted each other in a number of projects.

Structural reorganization to achieve multi-utility efficiency, the application of new technologies to further improve efficiency, and a working partnership with customers to meet total energy requirements; these are the driving forces in the 1980's.

"Light and Power employees have concentrated on efficiency improvements that have contained costs," Carnahan said. "Customers have been brave and patient through some tough times. Their conservation efforts and their willingness to use alternative energy resources have contributed, in large measure, to the rate stability we now enjoy. What we must now guard against is complacency," he continued. "On the Utility staff side, we will continue to push for efficiency of operation. We will also continue to promote energy conservation and wise energy choices by our customers, even though stable rates might tempt us to do otherwise. We have come to where we are in partnership with our customers. We cannot afford anything less in the future."

Sharon Held talks with customers about the technical aspects of energy use. As an Energy Conservation Advisor, she provides customers with a wealth of information. Photo taken at Home and Energy Show at Foothills Fashion Mall, 1984.

Epilogue

The Fort Collins Light and Power Utility has had an exciting past. I have enjoyed a bit of the history during my tenure as City Manager. I have enjoyed my association with the Utility and the industry for many reasons.

The most exciting thing about working with an electric utility is that energy is the most important thing in modern society. It will be a major issue for cities for decades to come, right up until the time some new form of energy is found or the second law of thermodynamics is repealed.

Cities are massive energy islands, able to generate their own electricity from waste, able to mine landfills for methane gas, and able to conserve and reuse energy many times over, if we were just organized to do that. We are not organized for that now, but we will be, in 50 years or so.

The fun of working with a utility is also that you can visualize what "might be," if only we had the money, and in some cases, the will to innovate as much as we could.

I also like the help of the "common man" which is possible in the utility business and which has certainly been utilized at Light and Power. Rates and taxes affect the quality of life pretty dramatically. Any effort we make to do a good job and hold down those rates is worth our weight in satisfaction, when you contemplate for whom it really means something. It really means something to our partners in this exciting venture.

John E. Arnold
City Manager

Chronology of Significant Events

1888

Fort Collins Light, Heat and Power Company plant fired up February 4, powering ten, 2,000-candle arc lamps.

1902

Fort Collins Light, Heat and Power Company sold to Fort Collins businessmen Charles H. White and Irving Bonbright. Name changed to Larimer Light and Power.

1908

Northern Colorado Power Company purchases Larimer Light and Power. Fort Collins power plant is closed and building remodeled into office and business space.

1930

Fort Collins city commissioners authorize feasibility study of a municipal electric utility.

1935

PSCo offers lower rates in Fort Collins and Public Works Administration hedges on grant/loan agreement, saying City must offer rates at least 15% under what is offered by PSCo. PSCo finances election aimed at retaining service, but Fort Collins voters decline. On April 19, City negotiates sale of $745,000 in bonds at 4¼% interest to finance system. On April 25, City enters utility business by reading meters taken from PSCo. On May 25, city commissioners formally create Electric Utility Department and Guy Palmes is hired to direct it. Ground broken October 14 on power plant.

1936

Fort Collins power plant construction concluded. First power generated from plant in May.

1937

City's first electric traffic signal erected at College and Mountain.

1948

First underground electric distribution system installed to serve 78 homes in Circle Drive neighborhood.

1949

Voters okay $25,000 in bonds to finance a fourth power plant generating unit.

1952

New cooling tower erected at power plant.

1955

City makes first-ever purchase of U.S. Bureau of Reclamation power to supplement supply from power plant.

1957

City government outgrows original city hall on Walnut Street which is converted into a fire station. Other city departments including electric department move into new city hall at 300 LaPorte Avenue.

1963

Colorado Association of Municipal Utilities (CAMU) which included Fort Collins and 30 other communities with municipal electric utilities, begins study of joint action agency feasibility.

1964

Stan Case named director of Light and Power department, effective September 15.

1966

Platte River Municipal Power Association (known today as Platte River Power Authority) is formally created.

1967

Drake substation and transmission line project completed which more than doubled utility's supply capability. New Service Center constructed at 700 Wood Street to house electric and water utilities.

1968

City council adopts ordinance requiring all new subdivision utility installations to be underground.

1969

Utility staff, under direction of senior engineer Robert Kost, successfully designs and tests a fiberglass underground vault. With City support, Kost applies for product patent in December.

1972

Robert Kost awarded patent on underground fiberglass vault. Joy Manufacturing in Denver begins producing such vaults. Utility rate increases are instituted after long period of declining customer rates.

1973

Platte River Municipal Power Association hires Albert Hamilton to direct four-city joint action agency. Light and Power closes the power plant in September.

1974

Utility contracts with consultant to undertake first cost of service study to determine customer rates. Colorado voters okay constitutional amendment giving government entity status to PRMPA. PRMPA name changed to Platte River Power Authority (PRPA).

1975

PRPA begins planning on Rawhide power plant. Stan Case elected President of American Public Power Association (APPA).

1978

A Citizens Advisory Committee on Electric Rate Reforms is created to help citizens cope with runaway inflation and ever increasing utility bills.

1980

Rawhide power plant construction begins. Residential Demand Rate initiated to help Utility's all-electric customers. Utility formalizes an energy services section to better serve customers.

1981

Stan Case retires and Bill D. Carnahan of Lamar Utilities Board is appointed General Manager of Light & Power Utility.

1982

HOT SHOT electric water heater load control program initiated. Utility launches CHOICE Process.

1983

Utility conducts customer attitude survey to determine customer needs and desires. Cost of service study indicates an average 5.7 percent rate reduction should be passed to consumers and city council approves rate reduction effective November 1. Utility determines to conduct cost of service studies on an annual basis.

1984

Solar Services Agency created within the Utility. Energy Information Center established at Public Library. First power generated at Rawhide power plant on March 31. Utility creates REACH Program to assist low-income and elderly residents. Utility gains APPA's highest award, the E. F. Scattergood System Achievement Award. Utility recognized with U.S. Department of Energy Innovation Award. DEED program launched. Reorganization ordered by City Manager John Arnold which places electric and water utilities into a Utilities organization. Bill Carnahan elevated to Utilities General Manager; Robert Kost named Light and Power Utility Director; and Mike Smith named Water Utilities Director under the reorganization.

1985

Utility gains approval from city council for SCORE mini-bond program. Bill Carnahan named President-Elect of APPA and will assume APPA Presidency in 1986.

Present Administration

CITY COUNCIL	Barbara Rutstein, Mayor
Gerry Horak	Kelly Ohlson, Assistant Mayor
John B. Knezovich	John Clarke
Ed Stoner	Larry Estrada
CITY MANAGER	John E. Arnold
UTILITIES GENERAL MANAGER	Bill D. Carnahan
LIGHT AND POWER UTILITY DIRECTOR	Robert A. Kost

LIGHT AND POWER UTILITY PERSONNEL

Mark Abrames
Ellen Alward
Ben Bailey
Thomas Berger
Ken Bivens
Kitty Black (ret.)
Dave Blakey
Vern Blehm
Steve Bonham
Don Botteron
Al Boushee
Brad Burke
Bill Carnahan
Lowell Cary
Greg Clark
Sue Coram
Lou Cordova, Sr.
Lou Cordova, Jr.
Robert Cuff
Dale Daggers
Eric Dahlgren
Scott Dahlgren
Warren Dalke
Jaqueline Darner
John DeHaes
Kevin Dietz
Christopher Doyle
Kellan Duncan
Gary Ellis
Ken Evans
Roger Fain
Rod Farrar
Steven Farver
Russ Fertitta
Billy Fisbeck
Frank Fisher
Paul Folger
Don Fox
Fred Garth (ret.)
David Gill
Bob Hawk
Sharon Held
Bill Henaman
Mike Hergenreder
Shirley Herzog
William Hoffman
Jim King
Ron King
Ed Koski
Robert Kost
John Lamprey
Mark Leising
John Lindsay
Tom Lynady
Doug Martine
Ron Mattern
Jo Ann McCoy
Don McFann
Patti McKee
Tom McMillen
Sandy Meek
Jim Mein
Joe Menard
Stephen Merritt
Bobbie Meyer
Bruce Michael
Harold Morris
B. J. Mosness
Don Mueller
Robert Nastan
Russ Osborne
Janet Perry
Ginger Purvis
Judy Putnam
Tom Rock
Don Roth
Jerold Roth
Tim Sagen
Lou Salazar
Diane Saye
Jim Scheller
Vic Schilling
Robert Schneider
Jim Schwartz
Alex Serrano
Ed Shipp
Wayne Shortridge
Mary Siebe
Bob Singleton
Chuck Smith
Marc Smith
Valarie Soto
Ray Souders
Wayne Souders
Earlene Spencer
Michael Spight
Ken Stacey
John St. John
Dennis Sumner
Stan Suppes
Alan Svetlik
Randy Swain
Doug Swartz
Bill Switzer
Billy Townsend
Ginger Uthmann
Bruce Vogel
Mary Beth Weber
Glen Whittaker
Jerry Williams
Don Witman

Acknowledgements

Authors always face two dilemmas when they acknowledge those who have assisted them in projects such as this one. There is always the danger that someone will be overlooked, and acknowledgements never seem to do justice to the efforts that are recognized. With those dangers in mind, this author steps forward with the following:

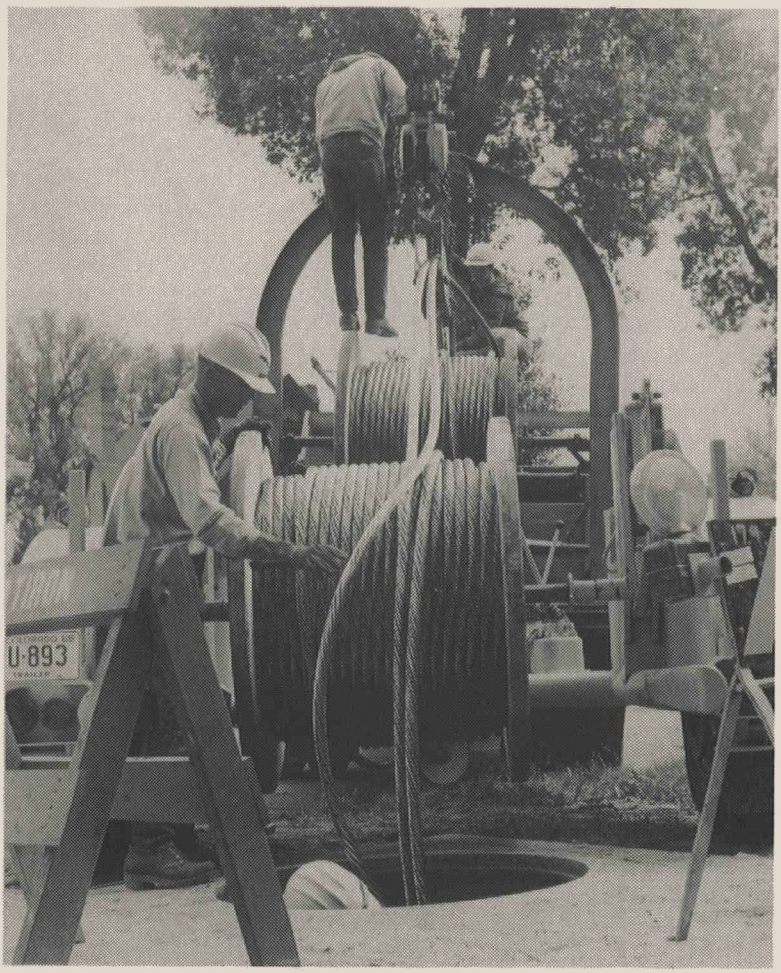
Heartfelt thanks to Utilities General Manager Bill Carnahan for his support of this project and his contributions to it. Special thanks also go to current Utility Director Bob Kost for his contributions and to former director Stan Case, whose knowledge and long experience with the Utility were invaluable. Thanks, too, to City Manager John Arnold for his contribution.

We gratefully acknowledge many Light and Power staff members who contributed everything from old photographs to yellowed newspaper clippings to almost-forgotten files to personal recollections of events and personalities, which shaped the Utility over the past several years. The staff list includes Kitty Black and Fred Garth, both of whom retired during this Golden Anniversary year. Others who made significant contributions include Warren Dalke, Ken Evans, Don Botteron, Ellen Alward, Eric Dahlgren, Tom McMillen, Shirley Herzog, Frank Fisher, John St. John, Vic Schilling, Judy Putnam, and Ginger Uthmann.

Thanks, too, go to many city employees outside the Utility organization including Karin Eberhart, Bob Copeland and Molly Nortier. Still others who must be recognized for historical contributions include authors such as Charlene Tresner who wrote *Fort Collins History in a Nutshell* (1981); Evadene Swanson who wrote *Fort Collins Yesterdays* (1976); and the late Ansel Watrous for his *History of Larimer County, Colorado* (1911). Other publications which provided information and the flavor of what has happened over the years include the *EPRI Journal: Creating the Electric Age* (March, 1979) and the American Public Power Association *Public Power Centennial Issue* (Sept.-Oct., 1982). Of course, numerous editions of the *Fort Collins Coloradoan* and the *Triangle Review* newspapers were read and re-read during the course of this project.

Finally, a genuine thank you to all present and past Utility employees and Utility customers. They are all citizens of Fort Collins who have worked together to forge a solid municipal electric utility and a vibrant community. The Utility and its community of customers are strong *Partners in Power.*

John DeHaes



Wayne Souders, Rick Debrick, Ken Stacey, and Bob Coleman (in manhole) installing the underground cable used for the duct bank under South Howes Street. 1969.