A History of the Brookings Municipal Utilities

By the People, For the People

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By D. J. Cline

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For
the Citizens of Brookings,
owners of
Brookings Municipal Utilities

The research material used in writing this history was gleaned primarily from newspaper accounts in the *Brookings County Press* and the *Brookings Register.* Direct quotes in the text, if not otherwise noted, are from the two newspapers. Additional information was gleaned from utilities records; interviews of current and retired utilities employees; interviews of others with knowledge of utilities history; and discussions with South Dakota State University engineering professors.

—D. J. Cline

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Foreword

This book, a history of the Brookings Municipal Utilities, provides an overview of the origin and development of the municipal utilities that have served the community of Brookings. It is the result of the efforts of many people, who, over a period of several years, realized the value of recording the history of an organization that has provided essential services to the community, a generous return to its owners—the people of Brookings—and livelihood to scores of families.

It took foresight and fortitude to compile this history. For this, we extend thanks to Eunice Colburn, who was its visionary and driving force. Through her foresight we have come to an appreciation of the heritage we as employees of BMU share. We possess a greater understanding of the values that have shaped our organization and we surely have a greater sense of belonging and affinity with one another as we share the historical perspectives of our common fields of work.

But more than that, this book serves to record for this community the fulfillment of the hope, trust and dedication of our forefathers to their ideal of self-determination. This organization was founded on the principle that the citizens of Brookings are best able to operate these utility services in their collective best interest. As employees of Brookings Municipal Utilities, we are proud to uphold this ideal and to provide to the community the services and financial return it deserves.

Much thanks must also go to the author, D.J. Cline, who devoted an incredible amount of time to this effort. She has taken our story and given it life.

We trust that this historical account will help you appreciate Brookings Municipal Utilities as an organization vital to the welfare of the Brookings community and vital, as well, to your personal welfare.

—**Craig Osvog**
Utilities General Manager

Chapter 1 — Independence

BROOKINGS IN THE 1880s was a little town with big ideas. Early settlers made it clear that they did not need "experts" from the east to come in to show them how to do things. They believed in themselves and their ability to provide services equal to those in larger cities. They considered themselves progressive — and they never missed an opportunity to brag about their fine little city.

The first community utility services were provided by local residents who took upon themselves to see that there was a common source for water and a way to dispose of waste. Later, when it was recognized that electricity could bring the city out of the dark and that telephones could put people in closer touch with one another and the outside world, the people sought these improvements. How to achieve them economically and with the greatest dispatch was debated heatedly and at length by Brookings residents. The idea grew that the people could provide their own utility services, and before the turn of the century, city officials were moving in that direction.

There is little evidence that consideration was given to the expertise required to operate these new services. Local people were not trained in the skills required, and even if there had been an inclination to seek help, few experts were available to consult.

From the first, water and wastewater were accepted as municipal responsibilities. A community well supplied water for domestic use and for animals, especially horses, an essential element of transportation in the 1800s.

Electricity was another matter. It was introduced to the city by a local entrepreneur, but city residents voted in 1893 to put it in the hands of city officials. The history of telephone was similar. It was brought to the city as a private business in 1899, but in 1903, by vote of residents, it was transferred to the people.

The amateurs who were hired to operate these early services for the city, in time, became the local experts. Their acquired expertise gave them status in the community. Citizens viewed with awe public servants who brought them running water, electric lights and telephones, and also safely disposed of waste.

Under the circumstances, some serious mistakes might have been expected from these inexperienced employees, but the story of Brookings utilities is

1894 — News

A large number of those citizens who are disposed to grumble about high city taxes are inspired to do so by the fact that 'taxes are twice as high here as they are in the town where they came from back east.' These people do not stop to think that this is a prohibition town, and that we do not derive the revenue from saloon licenses that the eastern cities do. This difference in revenue represents at a conservative estimate, a tax levy of eight to ten mills, or one-fourth of the total city tax. Those taxpayers who grumble the most would be the last ones to accept a cent of city revenue from saloon license. The absence of the saloon and the blessings of our quiet, orderly municipal atmosphere are luxuries that we must pay for.

Press, 3/1/1894

Covers for the first telephone directories were simple and usually carried advice about using telephones properly. This 1918 directory was typical. As the directory grew larger, cover design became more sophisticated. In recent years color has been used and a wide range of graphics and art utilized. Decisions about cover content are painstaking each year.

remarkably free of calamitous events. The records of the past 100 years yield ample proof that from the first the city successfully provided a reasonable quality of service at a cost which compared favorably with cities where service was delivered by private enterprise. In addition, as Brookings residents and the local newspaper editor frequently reminded one another, income from utilities kept taxes lower and eventually made it possible to finance civic projects which added to the quality of life that a progressive community considered important.

MUNICIPAL OWNERSHIP OF UTILITIES, once established, remained permanent, but not without challenge. From time to time, in letters to the the local newspaper and personal appearances at board meetings, residents questioned the advisability of continued city ownership. Twice the issue was brought to vote. Both efforts failed, but the question of the advisability of municipal ownership continued to surface from time to time. Citizens occasionally used the local newspaper or appeared before the city commission to voice their opinions. The evidence indicates, however, that although the wisdom of municipal ownership was questioned, most residents of Brookings approved and did not want to relinquish municipal for private ownership.

WHILE IMMENSE TECHNOLOGY changes occurred during the the first 100 years of utilities, office facilities were never given priority.

Half of city hall had been leased to a businessman who provided the first electric services. When the city purchased the equipment and took over the plant, it continued to operate out of city hall. As demand for services grew, however, administrative offices spilled over into buildings scattered throughout the city. The old city hospital, now West Hall on the South Dakota State University campus, housed a number of offices until the present building was completed in 1971. All administrative offices for water, wastewater and electricity are now housed in this building at 525 Western Avenue.

City hall was also the home of the first telephone exchange. A 6x8-foot space was leased to a privately owned company which was given permission to erect poles and fixtures and operate a telephone exchange. The owner soon built a new office at 415 Fourth Street. That building, expanded in 1925 and again in 1968, is still the permanent home of the telephone department.

AS BROOKINGS GREW and the demand for services increased, the number of full-time employees slowly rose from 25 in the early 1900s to 106 in 1990. Through

the years working conditions improved substantially and employees finally enjoyed benefits similar to those offered by most investor- or privately owned businesses of comparable size. But the road leading to acceptable working conditions and fair salaries was somewhat rocky. City officials were cautious about expenditures, including the amount they paid employees. Raises came slowly and only after careful deliberation. Salaries were a matter of record and appeared in commission proceedings in the newspaper or were reported to the public whenever changes were considered or implemented. With that sort of surveillance, city officials were not inclined to be casual about salaries. Watertown was considered a good barometer and Brookings tried to stay reasonably close to the pay scale of that city. Salaries, however, usually ran a little behind those paid by Watertown and considerably below those paid by most investor-owned utilities. It was 1971 before employees asked the board to recognize the International Brotherhood of Electrical Workers as a bargaining agent for utility employees. Forty-nine of 67 eligible employees voted to join the union. Helped along by union encouragement, salaries by 1990 had kept pace with those in cities of similar size, and utilities personnel enjoyed health insurance benefits and retirement plans similar to those offered by most privately owned businesses.

A RECURRING QUESTION UNTIL 1970 was "Should utilities earnings pay for a hospital structure, an airport, a swimming pool or even city streets?"

In 1960 Mayor Oliver A. Gottschalk said, "A city-owned utilities must decide whether it wishes to operate the utilities to supply the services at the lowest possible rates consistent with good service or whether utilities should be used as an instrument to reduce property taxes."

As the city grew and technologies advanced, supervision of utilities became more demanding and required more technical knowledge. Responsibility for each service was assigned to a single commissioner, but eventually the job of overseeing the different utility departments fell to one commissioner. The job was formidable, and there was a great deal of discussion about what ought to be done.

Mayor Gottschalk proposed establishing a utility board to provide continuity in management and to relieve the work load carried by city commissioneers. The idea was also supported by utilities commissioner William Gamble. The South Dakota legislature had authorized such a board in 1955.

A utility board was approved by voters April 14, 1970, and five members were appointed by the mayor, approved by the commission, and made responsible

After a child squeezed into the protective structure enclosing a transformer, the city decided it should mount transformers on platforms well above the ground. This photo shows an early transformer near Sexauer elevator.

The Sixth Street watertower, built in 1948, was the second for Brookings. It is now one of four.

for all utilities. With this action, Brookings joined Watertown, the only other city in the state managing utilities under the direction of a utility board.

City commissioners approved the recommendation of the new mayor, Orrin Juel, and outgoing mayor, Forest Frie, for membership on the first board. The five-man board included Dave Pearson, Steve LeFevre, Donald E. Holm, H.G. Sand and John Lagerstrom.

Under South Dakota statutes, the utility board had—and continues to have—widespread powers. It could enter into contracts, fix utility rates and determine the amount of surplus funds to be turned back to the general fund. In effect, it did not have to answer to the voters or the city commission. Brookings voters soon learned that they would no longer go to the polls to make decisions about utility management. The only vote they retained was on the question of doing away with the utility board or selling the utilities.

Freed of the politics, utility board members effected major changes almost immediately. Although there was some uneasiness about the advisability of giving a board what was perceived as unlimited power, the board, confident in the authority given it by South Dakota statute, acted promptly and decisively in management matters.

Its first major decision was to move ahead with the construction of a new building to house utility administrative offices. The building was underway within the year. Before that the issue had been argued back and forth for several years by the city commission.

As the utility board took on the responsibilities that the commission had exercised through the years, it was not surprising that some citizens were uneasy—and vociferous—about the unprecedented power of the utility board. Yet it was eight years before a challenge was mounted. In 1978 enough signatures were gathered to ask voters whether the board should be ousted. By a 60 percent margin, voters gave their approval to continued board management. The issue quieted and has not been brought to vote again.

VIEWED IN DETAIL, the history of Brookings utilities is rich and colorful. From the time the first community well was dug, the first electric light erected, the first telephone installed, and the first wastewater disposed of safely, the ability of the people to meet needs on their own has been a matter of pride.

While the following story of Brookings utilities does not attempt to present a detailed account of the myriad activities and ups and downs of the entire 100 years of municipal operation, it will take the reader through the history of each department. For those who follow the account, which covers the late 1800s to 1990, it

will be apparent that it is a story of people—people who had confidence in themselves, pride in what they were doing, the energy and intelligence to take on complex problems, and the vision to stay abreast of—and often ahead of—advancing technology.

One hundred years of Brookings utilities involves millions of dollars and countless hours of dedicated service. In the final analysis, it is a vindication of the confidence the people of Brookings placed in its fellow citizens to competently operate services at the heart of the infrastructure of the city and to expand and modernize those services as the city grew. It has to be considered a success story of major proportion.

The wastewater treatment site in the late '50s. The plant was updated in the late '60s. A new wastewater treatment plant was completed in 1981.

Editorial Comment . . .

When Brookings had two newspapers—The Brookings County Press and the Brookings Register—there were occasional differences of opinion about the advisability of municipal ownership of utilities. The 1930 comment below is typical of the positive attitude some editors displayed. After the two papers merged in 1948 as the Register, editors were ambivalent, sometimes enthusiastic, sometimes critical. But in later years the editorial tone became strongly and consistently supportive.

One of South Dakota's down state newspapers says that "municipal ownership of electric light plants is the bunk," or words to that effect. This is a rather careless and sweeping statement. Possibly if this newspaper had reviewed the history of private control of public utilities in America, it would not have been so sarcastic and sweeping in its condemnation of public ownership of public utilities. During the past few years, private controlled public utilities—particularly the so-called power trust—have been bitterly attacked. As a consequence these private utilities have "went the limit" in demonstrating to the public that they could give the better service at even lower rates.

Everyone who studies the problem with an open mind must admit that there are many disagreeable features of publicly owned public utilities—but the past has shown that these evils are often far worse under private ownership, even though in many present day instances examples can be shown of some superior advantages. Politics is a marring factor of public ownership. Too often groups are formed, usurping all the profitable jobs, and stifling improvements and advances that the public would demand under private ownership. Thus perpetuating inefficiency of management through personal favor and political pull. This is a result that seems inescapable to some extent in publicly owned public utilities, which would probably find prompt remedy where individual selfish interest was in power. But such results seldom reach damaging proportions.

On the other hand ,even inefficiency, where fair rates are maintained, seldom results in anything more damaging than an unwise expenditure of profits, which, under private ownership, would mostly be sent out of the community, anyway.

The City of Brookings owns its own electric light plant, its own waterworks system, its own heating system, which heats the entire business section largely with waste steam at practically the cost of fuel alone (to the business man), its own electric power plant, its own city telephone plant and city telephone system, and the municipality is in a prosperous condition. The whole outfit is worth probably around a half million dollars. Possibly, we might sell out and for a period of years obtain light and power at lower rates—at the cost of sacrificing several other things. But none of all these publically owned public utilities are costing the taxpayers of the city a cent. Only the consumers are paying the bill—and in proportion to their use of the utilities. But the whole city owns the utilities, and many things which otherwise would have been taken out of the taxpayers have been paid for by earnings of these utilities.

The Brookings County Press is heated by the city steam plant, is lighted by the city electric light plant, we have electric motors to operate the linotype, saw, stitcher, folder, jobber, and newspaper press, electric heater to heat the metal for the linotype, and water from the city waterworks. We have seen a lot of facts and figures from other cities, where the public utilities are privately owned. And we do not claim that the Brookings municipally owned plants are perfect. Maybe there are several things we would change if we had the power and gave the problem study and investigation.

County Press, Dec. 18, 1930

Chapter 2 – Water/Wastewater

> This week the citizens hereabout concluded that a good well was one of the indispensables to a first-class town and hence Hugh McMullen was set to work boring and soon was down twenty-three feet, where he struck an abundant supply of good water. It is eight or ten feet in depth and of the best quality. Everything that looks to the accommodation and convenience of the public is being done as fast as possible in Brookings. *Brookings Press, 10/23/1879.*

BROOKINGS' FIRST COMMUNITY WELL appeared in 1879. A few early settlers paid to have it dug, then appealed to others to buy a pump. "The town well needs a new pump. Throw in boys and give her one," the newspaper editor encouraged.

The pump did appear and served the community for about three years before heavy usage took its toll.

Two more wells plus a well under the newly constructed city hall soon supplied water for additional fire protection. A windmill, which provided "a fine view of the country," pumped the water at city hall.

The first attempt at establishing a centrally located municipal water supply occurred when a contract was given to a Wisconsin firm to dig an artesian well. The firm reached a depth of 600 feet when it claimed to strike granite and abandoned the project. Authorities, denying the granite claim, negotiated with three firms before they got one to finish the well. Completed in June 1888 on lots which the City Recreation Center (formerly the Brookings Armory) occupied in 1990, it was six inches in diameter and approximately 1,000 feet deep. Brookings citizens went to the well to get their water, which was untreated. The water was collected in two reservoirs flowing one to the other with overflow going into waste ditches. The well spouted about 1,500 gallons per minute.

Because the city council refused to pay the original contractors for their work on the well, the company started legal proceedings for payment. The case was never brought to trial.

THE ARTESIAN WELL, used until the 1890s, was replaced by a piping system that carried water from a well field developed one mile west of town. These wells supplied the city's distribution system directly until 1902 when the first city water tower was built on Fourth Street. This water tower continues as part of the city water system.

A community supply of water was one of the concerns of people who settled in Brookings. From the first water was plentiful, but making it accessible was a problem. Pictured here is the old well house.

1883 — News

The town pump, that time worn necessity which has performed a noble mission in its day to thirsty men and animals, was taken suddenly ill some days ago, and now refuses to bring forth the liquid so highly important in a temperance town. The members of the city council are not doctors, it appears, and leave the poor old pump to die amid the groans of a suffering people who "prime" and "prime" it, and then mournfully walk into the country after water. If a fire should occur the "city dads" would never be forgiven, as the old pump is the only extinguisher in town, and the people could only stand silently by and see their property go up in smoke. The outlook is anything but encouraging. Will the pump be repaired?

Brookings Press 2/1/1883

Since most businesses and homes were of wood, enough water and pressure to allow volunteers to fight fires was important. With a water system of sorts in place, the city felt it was working toward a satisfactory level of protection for the community. It was also providing water for sprinkling the dusty streets of Brookings.

> A practical test and exhibition of our system of water works was made last Saturday afternoon. Three streams were thrown over our highest buildings at a distance of half a block. With a little new hose we will be alright. *(Press 3/27/1890)*

Bonds were issued for $11,000 in 1891 to pay for waterworks, laying mains and building a reservoir. Later, part of a $2,500 bond purchased fire fighting equipment.

Mains rusting out or needing repair were a constant concern. A solution of sorts was achieved by enclosing hydrants in brick boxes. Mains then were said to be in the "best shape since installed." A further improvement resulted from packing hydrants to protect them from frost. Thus when the fire bell rang on cold nights, water was said to be in "liquid form ready for use."

WATERWORKS GENERATED controversy. Editorial comment in the local paper consumed several columns in March 1894.

> Waterworks are considered necessary in all cities the size of Brookings, and taxpayers generally expect and are willing to pay toward their support. But in this city the waterworks have been a source of expense and annoyance since the inception of the idea of having them, and on the other hand have been of very little benefit. In the first place, the plant was put in in a bungling manner, upside down and wrong side to, and will never be satisfactory until the mains are all taken up and put down right.
>
> . . . The city might better trust to the old bucket brigade and carry the risks and pay the losses of property by fire than continue to maintain its water works under the present conditions and cost. The water works have not saved $3,600 worth of property since they were built, and probably never will.
>
> . . . Fire protection and water works are all right and we do not wish to be understood as being willing to dispense with them. But we would like to see the expense and benefits more nearly equalized.
>
> . . . If the people of Brookings want lower taxes the water works plant is the thing to tackle first. They must continue to pay the present taxes for its maintenance or put it in shape to bring in a revenue. *(Press, 3/1/1894)*

While the water system was declared inefficient, taxes needed to support it were defended.

A first-class system of waterworks was requested by citizens. They believed a bond of $60,000 would

cover a system for irrigating and domestic purposes and should provide for population growth to 5,000. The actual bond approved to cover the work was $50,000.

With this money, construction of a power house and waterworks system was started in the fall of 1901. Before the end of the year, it was completed on lots east of Main Street.

With a new system came new rules. Special permission was needed for yard fountains; businesses that wanted larger pipes, with hydrants to be used in case of fire, had to get special permits; hydrants were placed off bounds for any but city use; strict regulations controlled private installations; ordinances regulated the use and price of water furnished from the new municipal plant. Those that wanted water in tanks or barrels had to go to the city treasurer and pay in advance.

The new water system, however, offered improvements to the quality of life. Charles Poole was able to install a bathroom in his barber shop and furnish hot and cold baths "on short notice."

WATERWORKS WAS ON THE AGENDA of almost every city council meeting. Always there were problems.

> The water reservoir which has been used in connection with the city water works since 1889, gave way Monday night about 8:30. It was full of water, the pump being in operation at the time. The iron hoops had evidently become weakened by rust, and one had previously given way and dropped off. When the tank burst there was a terrific explosion which could be heard for blocks, and the water and broken staves shot out in every direction, the water flooding the neighborhood. Part of the tank fell on the roof of the old power house, caving it in, but aside from this no damage was done to other property. It was lucky the thing went to pieces when no one was around, for it would surely have killed anyone standing within several feet. The new steel tank is nearly completed and will be ready to receive water by Saturday.

Main control and pumping buildings at old wastewater treatment plant, left below. Water came in for pretreatment and left from the west end going out to the lagoons. Oil filter building, below. Sludge was thickened into cakes to be taken to the landfill. In the early '70s this was discontinued and sludge was applied directly to fields as fertilizer.

Anaerobic digestors at the old plant. Boiler room in the middle was used to heat sludge.

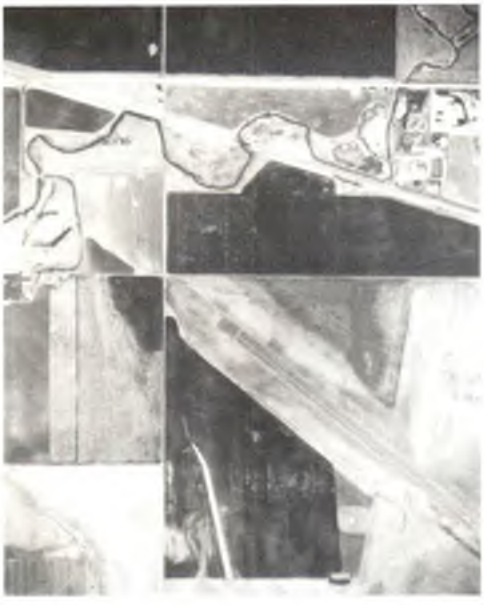
Meanwhile a man is kept at the pumping station, and a telephone has been put in there, so in case of fire we will have a water supply direct from the well. *(Press 6/12/02)*

As to water palatability, the *Press* wrote: "After a fellow takes a drink of the Brookings city water he wouldn't care a darn if somebody came along and knocked the tar out of him."

Over a period of 14 years, citizens had become used to their main street being dug up, if not for water or sewer, then heating, telephone or light services. "There is nothing like living in a big, busy city, but it has its penalties, and torn up streets is one of them."

In 1903 the city increased its charges for water service, and by the end of the year the waterworks plant showed a profit of $952.87. Consumers paid 25 cents monthly for each 1,000 gallons, with a minimum charge of 50 cents per month. Each consumer was entitled to receive 24,000 gallons of water per annum at this rate.

Aerial view of the old sewage treatment facility in the early '60s. Dump is in triangle between railroad tracks and highway, upper left corner.



SAFETY OF THE WATER supply was questioned in 1912 by a State College engineer, who felt that an incinerator should be installed for garbage. Although the pumping station was close to the city dump, city water had always passed sanitary inspection. Engineers who had earlier confirmed that the water was not threatened by its location near the dump defended their position, and their judgment prevailed. Items that helped maintain public confidence in water quality appeared regularly.

Citizens will be glad to know that the recent samples of City Water examined at the State Laboratory show excellent water—but the two samples of well water from wells from which much water is used and called excellent by patrons is bad water which should warn people to boil well water before drinking it or using it for purposes where common sense says beware. *(Press, 8/14/16)*

By 1920 a commission form of city government had replaced the aldermanic system. Responsibilities

for the different utilities departments were assigned to individual commissioners.

Mayor T.I. Flittie reported in May 1925 that the value of the city waterworks had grown to $100,000 with a bonded indebtedness of just $48,000. The waterworks system was not generally regarded as one of the revenue producers in the city's municipal enterprises, but nevertheless, the following year a net income of $4,142.02 was recorded.

WATERWORKS SUFFERED the same growing pains as those experienced by telephone and electricity. Citizens often found themselves without water.

By 1929 the city was contracting for new wells to be dug but capped until needed. One of the first was about a mile north of the college, and it was put into immediate use. It was the first built north of the city and produced a flow of approximately 1,000 gallons per minute. With the additional supply, the city did not expect to call upon water users to refrain from watering their lawns and gardens during dry spells. Brookings used around a half million gallons of water each day.

Stabilization ponds in the late 1960s. Old sewage treatment plant to right of ponds. Lagoons in dark sections.

AN IMPROVED SEWER SYSTEM was discussed as early as 1895, but it was 1898 before real estate owners on Main Street petitioned the city to construct a sewer in a "proper and efficient manner." As a result, the laying of 1,200 feet of 12-inch vitrified sewer pipe was approved. Property owners were assessed the cost.

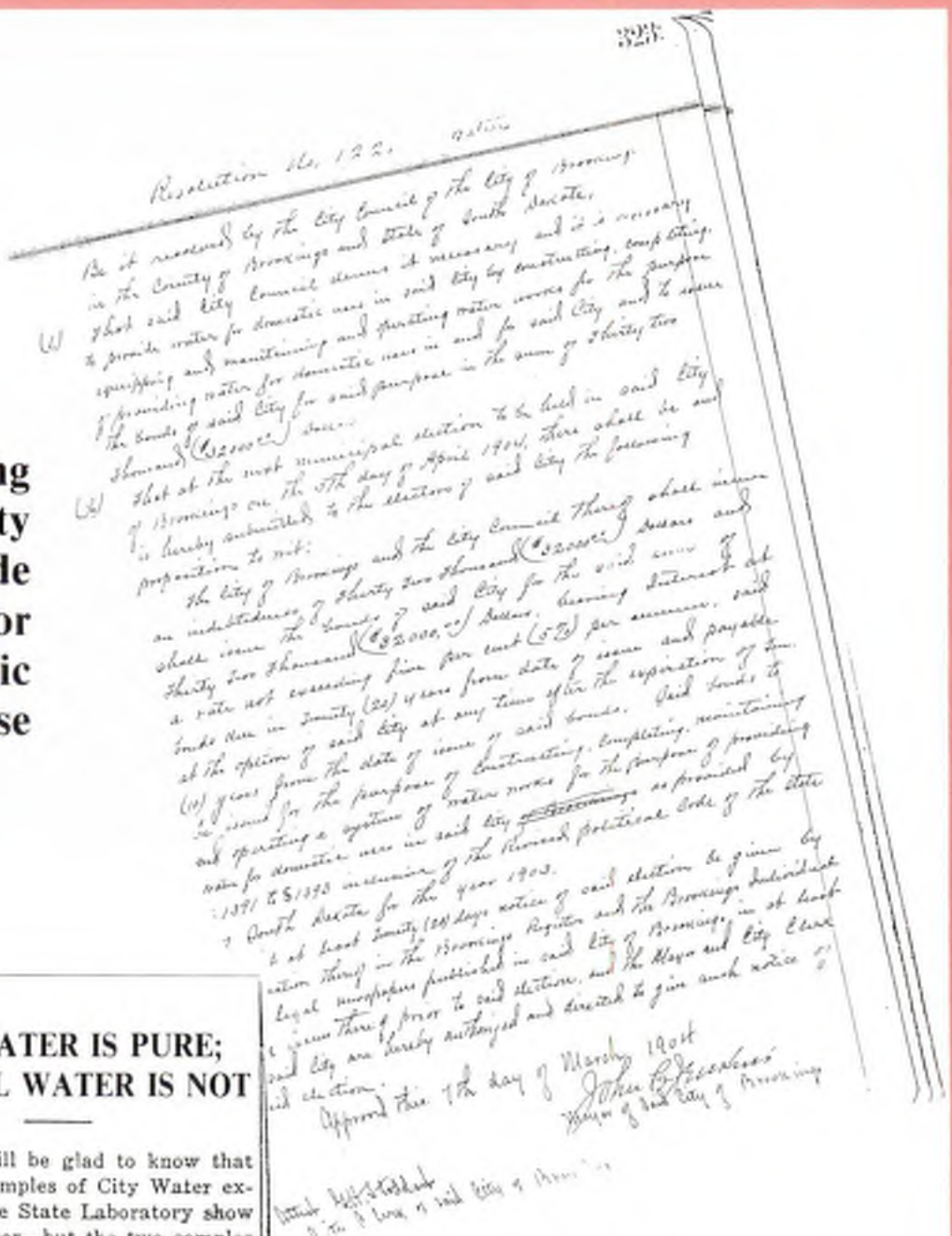
In June 1903 a Minneapolis sewer engineer was called in to advise the city council on a complete sewer system for the city. Following his visit, the commission in March 1904 called for a $32,000 bond issue to cover needed expansion of both water and sewer.

The bond issue passed, but later the election was declared illegal because a majority of the votes cast on all issues being voted on were not cast in favor. At a second election, the bonds were defeated. A third election was called. On the third try, the citizens approved the bond issue by a decisive majority. The $30,000 bond was divided equally between water and sewer. With funding in place, the city was then ready for septic treatment of sewage, the most advanced treatment available at that time.

In August 1907 the ditching machine to be used in constructing the new sewer system arrived, and work was started. Citizens followed a running account in the newspaper. The 25 men who had been working in the ditches most of the winter of 1908 struck for higher wages in March, claiming that $1.50 per day was not sufficient; they demanded $2. The contractor got around that by sending to Minneapolis for a new crew.

Underdrain of trickling filters at the end of their life span. Because of sulfur dioxide buildup, concrete was pitted, pipes were rusty.

Bonding the city to provide water for domestic use



Resolution No. 122.

Be it resolved by the City Council of the City of Brookings in the County of Brookings and State of South Dakota, that said City Council deems it necessary and it is necessary to provide water for domestic uses in said City by constructing, completing, equipping and maintaining and operating water works for the purpose of providing water for domestic uses in and for said City and to issue the bonds of said City for said purpose in the sum of Thirty two thousand ($32000.00) dollars.

That at the next municipal election to be held in said City of Brookings on the 17th day of April 1916, there shall be and is hereby submitted to the electors of said City the following proposition to wit:

Shall the City of Brookings and the City Council thereof, shall issue an indebtedness of Thirty two thousand ($32000.00) dollars and shall issue the bonds of said City for the said sum of Thirty two thousand ($32000.00) dollars, bearing interest at a rate not exceeding five per cent (5%) per annum, said bonds due in twenty (20) years from date of issue and payable at the option of said City at any time after the expiration of ten (10) years from the date of issue of said bonds. Said bonds to be issued for the purpose of constructing, completing, maintaining and operating a system of water works for the purpose of providing water for domestic uses in said City as provided by Chapter 139 of Session Laws of South Dakota for the year 1903.

That at least twenty (20) days notice of said election be given by publication thereof in the Brookings Register and the Brookings Independent legal newspapers published in said City of Brookings, in at least one issue thereof prior to said election, and the Mayor and City Clerk of said City are hereby authorized and directed to give such notice of said election.

Approved this 7th day of March 1916

John [illegible]
Mayor of said City of Brookings

Attest: [illegible]
City Clerk of said City of Brookings

CITY WATER IS PURE; WELL WATER IS NOT

Citizens will be glad to know that the recent samples of City Water examined at the State Laboratory show excellent water—but the two samples of well water from wells from which much water is used and called excellent by patrons is bad water which should warn people to boil well water before drinking it or using it for purposes where common sense says beware. My opinion is that there is very little good well water, such condition being caused by stagnation of waters and growth of vegetation and pollution of same from surrounding premises.

If you can arrange to add about two ounces of hypochlorite of Lime to 75 to 100 gallon of water, then filter the water you will likely have very good water. If you will deposit about five to ten pounds of hypochlorite of lime in every cesspool or vault or other dirty hole in the city this no doubt will do much toward cleaner well water. If a City Draym.n, all of whose time, or so much as is necessary, shall be constantly engaged to keep the city clean instead of depending upon chance and an occasional cleanup, this will do much for you.

Frequent flushing of City Water Mains will care for the City Water so far as germs are concerned but it will not prevent the deposit of coloring matter altogether as much of that comes from the action of the water on your private residence iron pipes and even on your iron tanks.

Aug. 24, 1916

Water, water everywhere, but was it safe?

The wooden water reservoir which has been used in connection with the city water works since 1889, gave way Monday night about 8:30. It was full of water, the pump being in operation at the time. The iron hoops had evidently become weakened by rust, and one had previously given way and dropped off. When the tank burst there was a terrific explosion which could be heard for blocks, and the water and broken staves shot out in every direction, the water flooding the neighborhood. Part of the tank fell on the roof of the old power house, caving it in, but aside from this no damage was done to other property. It was lucky the thing went to pieces when no one was around, for it would surely have killed anyone standing within several feet. The new steel tank is nearly completed and will be ready to receive water by Saturday. Meanwhile a man is kept at the pumping station and a telephone has been put in there, so in case of fire we will have a water supply direct from the well.

June 12, 1902

:: Danger of Pollution of the City Water Supply ::

By HOMER M. DERR

The sketch reproduced herewith was made from a point one and one-quarter miles west of the city. It shows somewhat accurately, and to scale, the real situation that we are facing in regard to our future city water supply. If a deep cut were made across this flat area as shown, passing near the pumping station and the present city dump, we would find that the country is very level, and that below a depth of four or five feet of soil and clay is an immense bed of pervious gravel, in which the ground water rises to within a few feet of the surface. The water in the well is, of course, approximately on a level with the ground water at all times, and is not inseparable from the ground water underneath the city dump. As is well known, the ground water level fluctuates from time to time, being higher at some times than at others. At the same time, this mass of putrefaction in the city dump will soak deeper and deeper like the foulness of a cesspool, especially in wet seasons, until our city refuse and public water supply will have become united. Our city water, which up to the present time has passed sanitary inspection better than most of the common wells, will become permanently polluted. Shall we court epidemics due to negligence in allowing disease germs to get into our water supply, or shall we prevent the same by abandoning the city dump and installing in its stead an incinerating plant? That is the question.

The disease-spreading properties of organic refuse are too serious to be passed over lightly. Enormous heaps of refuse are allowed to accumulate in the hope that in some mysterious way purification will take place automatically. It is impossible to defend such a system; it is filthy and unsatisfactory in the extreme. It is a menace to public health, and is unwisely tolerated from an economic standpoint; but, generally speaking, economy without efficiency is to be avoided. Organic refuse is the most deadly enemy to the soldier as well as a danger to a civil community. Apart from the disease-spreading properties of the pestilential odors arising from refuse deposits, there is much to be feared from the enormous numbers of flies, which breed and feast in the filth, and multiply at an alarming rate. Wherever organic refuse, excreta, and carcasses are deposited, there flies will abound in warm weather; and three times a day those very same creatures are walking over the food we eat from our tables, contaminating the same with all manner of filth and disease germs. How few mothers ever realize that the attacks of virulent diarrhoea so common to babes of the first year, may have been caused by the presence of unsanitary refuse heaps in the locality, from which the infection was carried to the house by flies.

It is indeed inconsistent to see a city like Brookings, the seat of the largest and most important educational institution in the state with a $100,000 court house, a $25,000 city hall, water works, sewers, electric light and telephone systems, a $100,000 college building and a $75,000 post-office soon to be built, but with no modern method for the disposal of city refuse. An insignificant fractional part of the money required to provide the above-mentioned improvements in our city will build a modern incinerating plant of sufficient capacity for many years to come. In spite of the fact that the first charge of the authorities is to preserve the health of the community, there is usually a strange reluctance to face a sanitary problem. But in Brookings it is different. The Board of Health, the City Council, and the Commercial club are all of the right mind, progressive, alive and up-to-date. All that is needed is the support of the people, and in them we have a hopeful sign of the times.

The system of refuse disposal in Brookings is one that stands condemned from Dan to Beersheba, can never be final, and is one that was regarded as impossible before the Christian era. It is evident that in spite of all that has ever been attempted and done, disposal by fire is now recognized as the only real solution of the problem.

While it may be thought this plant cannot be built now on account of lack of funds, the city certainly can and should provide a more safely located plat of ground for present purposes, and for a site for a future incinerating plant equal to the demands.

March 7, 1912

Deteriorating condition of settling basin tanks and flood building compartments shown in 1950 photo.

Northwest corner of settling basin, ready to collapse in early 1950s.

The summer of 1948 was one of the wettest in years, but water consumption had risen so rapidly that another new well was underway.

The city's cooperation in submitting required samples to the state division of sanitary engineering was commended and the city was congratulated for maintaining a safe water supply. By the end of 1950 the 250,000-gallon storage water tower on Sixth Street and 14th Avenue (then the east edge of Brookings) was in use, mains had been extended to the new municipal airport, and the city had agreed to sell water to recently established Sunnyview, a development north of town which did not find the water supply it had expected. Four wells supplied water for the two storage towers.

INGENUITY, DEMONSTRATED in much of Brookings history, was evident in a unique service provided in the '40s. Hot, soft water was delivered in 10-gallon cream cans to housewives by local entrepreneurs. Among these were two young veterans, George Pullman and Alois Lee, both Brookings natives, who were in business in 1949. The two loaded steaming hot water into the cans at the city power plant and spent the morning delivering it. The water was purchased from the city, which used soft water in the turbines to prevent liming. The demand was year-round, but summer was the big season. A price of 25 cents per 10-gallon can included delivery of the filled can weighing about 110 pounds to any part of the house where it was needed. Bathing and washing clothes were the predominant uses, but water was delivered for scalding pigs and chickens, washing hair and filling shower tanks atop the house. The huge metal cans held the water at steaming heat for three to four hours.

THE VOICE OF UTILITIES in Brookings through the '50s amd '60s was William Gamble. He was quoted in most newspaper stories when electricity, water or sewer issues appeared. He was instigator—or deeply involved—in most expansion projects undertaken by utilities. A professor in the College of Engineering at State College, he was knowledgeable about the mechanics and principles involved in running the city's utilities. His influence was exerted forcefully on the commission, and his dominant role in the politics of city services was recognized. In addition, his pedantic background was apparent in his attempts to educate the public on operation details and reasons for change. Gamble knew how to use the media, and the media took his word as gospel. There was good reason for this. His engineering expertise was acknowledged, and no one in the city had been more involved than he with every aspect of policy making and services during

the '50s and '60s. His leadership style was sometimes abrasive, and his confidence was often interpreted as arrogance. But there was never any question that Gamble wanted what was best for Brookings. His influence was felt strongly in water and sewer development. And his contributions to utilities in general were well recognized by city leaders and many others in the community.

In March of 1951, Gamble reported that the state board of health had called the Brookings wastewater disposal plant 30 percent overloaded and its efficiency down to 66 percent. The Imhoff tank structure was deteriorating and appeared ready to fail in some places. Gamble proposed a new plant at an estimated cost of $150,000 to $200,000. But the consulting engineers called in on the project estimated the cost at $302,500. This included a modern sewage disposal system, treatment plant, control building and improvements. The old system no longer met the standards for capacity operation, the consultants said. Moreover, a higher degree of treatment was required to maintain reasonable stream conditions in the Big Sioux River during periods of low flow.

This was just the sort of report that Gamble and the commissioners needed to take to the public in support of revenue bonds. They proposed that sewer improvements be financed with a bond to be redeemed with funds collected from a sewage charge based on each customer's water usage. They asked that petitions be circulated for a revenue bond not to exceed $350,000. By obtaining the signatures of eligible home owners, the commissioners avoided a special election and accelerated the process of getting the work done. Charlie Poole, whose comments were heard frequently in response to utility decisions, was among those circulating petitions. The effort was successful and by June of 1954 contracts totaling $284,551 had been let for the new system.

The sewage disposal plant, finished at a cost of $320,000, started operation in August of 1955. Charges to customers provided funds to make the revenue bond payments.

WATER USE reached 1,764,000 gallons in July 1954. City officials said they were able to put all the water used through the iron-removal plant, but if the demand became too great, that step would have to be skipped and customers could expect rusty-colored water again.

Increased water costs caused the commission to consider a boost in water rates. Also considered was the transfer of ownership of privately owned water meters to the city. By 1956 the city had decided the wisest

The first water tower built in Brookings. Located on 4th Street, it is still in use.

Water tower on 22nd Avenue, erected in 1963. The fourth water tower is on South Main.

1960 — News

As work progressed on a new 1,500,000-gallon underground municipal water storage reservoir at the city water plant, William H. Gamble, city commissioner, had comment this week on the project.

"Several Brookings residents have expressed surprise that additional water storage is necessary this soon after the filtering capacity of the water plant was increased," Gamble said, adding: "Frankly, we who are responsible for the city's water supply also are surprised at the rapid increase of water use in Brookings."

Gamble noted that this past summer, although each day was started with full water tanks, it was impossible to "put water through filters at the rate it was used for short periods of time."

Register, 11/23/60

course was to take over the meters and service them without cost to patrons. Servicing was handled in an old building by the underpass on 6th Avenue, used as the water superintendent's office.

A proposed water and sewer revenue bond issue of $250,000, put to the voters late in 1956, was given better than 10 to 1 approval. It financed new sewer construction in the college area and west of the disposal plant. It also included a new water well, sludge beds at the disposal plant and expanded filtering facilities at the water plant. In 1957 sewer improvement totaled an additional $127,000, and bonded indebtedness for water and sewer reached more than half a million. One development that saved costs was an automatic control system installed at the plant. The department no longer had to have someone on duty around the clock.

By 1958, the capacity of the water plant had doubled; a new well had been dug (increasing water capacity to 2.5 million gallons per day), and the water plant was enlarged. The plant included two tray-type cascade aerators; break-point chlorination; addition of lime to raise alkalinity and alum to form a precipitate; a flocculation basin; two settling basins; and two additional rapid-sand filters. But the water department was still struggling to make water taste better. Some iron and manganese were removed, and sulphur and chlorine odors were eliminated. As a result of these changes, the taste of drinking water changed. Some thought it tasted better, others missed the previous mineral taste.

By now, the city was hard pressed to keep costs within revenues. Among its problems was extending mains to the many new homes under construction. The commission ruled out general obligation bonds, assuming residents would reject them. Among the solutions approved were shifting some water main extension costs to individual property owners, charging more for larger air conditioners, and raising rates. Rates rose to 21 cents per 100 cubic feet up to 50,000 cubic feet and 16 cents per 100 cubic feet for anything in excess of 50,000. The chamber of commerce, anxious about the city's economic development, petitioned the commission to refrain from imposing additional charges that might hurt future expansion.

In 1959 Gamble announced that Elmer Thon would add the water and sewage treatment plants to his responsibilities as power plant superintendent.

Bids were accepted in October 1960 for a 1.5 million gallon underground reservoir to be located on the north edge of the city. It, along with an additional city well, gave Brookings a day's reserve of water. Gamble, emphasizing that the water utility was not operated to show a profit (as were electric and telephone utilities),

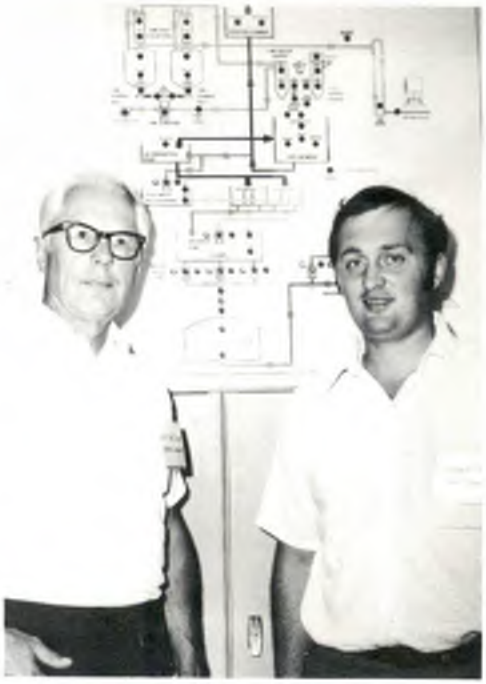
announced that it was the city's intent to borrow from electric reserve funds to finance the reservoir.

WHILE THE WATER DEPARTMENT struggled to meet demands, those responsible for wastewater were having their problems. In 1956, water that should have been handled by storm sewers backed up into the sanitary system in the business section and several residential areas. The superintendent of water and sewers filed a report with the commission enumerating problems and emphasizing the need for water/sewer expansion. The estimated cost: $17,000 for a new water well; $188,000 for expansion of the municipal filter plant and repairs to the facility (thus maintaining iron and manganese levels at acceptable levels); $140,000 for new sewer lines; and $20,000 in engineering and other fees. A quarter million dollar bond vote was scheduled for December 1956. This was to be augmented by $50,000 in federal funds and $40,000 in existing water and sewer funds. Since the expansion would also serve the campus, State College was expected to pay $800 monthly toward the bond. Brookings residents would pay higher water and sewer rates. In a light turnout, voters overhwhelmingly approved the bond issue, and by March 1957, a federal grant of $51,960 was approved. The city now had issued a total of $1.35 million in revenue bonds, and was at its legal limit for bonding. Beginning in April '62, Gamble wrote a series of articles for the Register. Called "reviews," these articles were intended to keep people informed about water and wastewater and at the same time justify any rate increases.

SEWER EXPANSION got a boost in 1962 with an ordinance that permitted the city to extend sewer service and assess property owners for their share. In 1964, a mile of new sewer lines was added and an extensive sewer cleaning program was underway. Gamble used his November review to explain the city's cleaning activities, listing some of the items clogging sewer lines—tree roots, pieces of wood, diapers, socks, shirts, dresses, glasses, false teeth and toys.

The nationwide concern about the effect of detergents on sewer systems had been noted locally, but the problem was dismissed as unlikely to affect Brookings or most South Dakota towns because of low population.

DISTRIBUTION OF WATER was developed through the years as the growth of the city required. A report by the superintendent of water and sewer revealed more than 389 million gallons of water pumped in 1964; 80 new water meters installed; 100 new water taps made;



Wes Hays, utilities general manager, and Reuben Roth, water plant operator, with waterworks monitoring panel, August 1973.

the city's sixth well being dug. A third water storage tank was in use by January 1964. Installed at 22nd Avenue and Olwein Street at a cost of $350,000, it had a capacity of 500,000 gallons.

During this busy time in the 1960s, environmental awareness was growing. With it came the promise of increased state and federal regulation. The water department had the added responsibility of trying to anticipate requirements and to make decisions in advance that would meet expected changes.

ADDITION OF FLUORINE to the water was a controversial issue. But it was announced that, as a health measure, fluorine would be added to the city water supply by spring of 1961, joining chlorine and lime as water treatments. The decision caused enough comment that the commission sought approval. Citizens, informally by poll, and then officially by election, approved fluoridation two to one in April 1961.

FROM 1951 TO 1983, South Dakota State University's College of Engineering, in cooperation with the state Health Department Division of Sanitary Engineering, trained classes in handling wastewater, using Brookings' treatment facilities. SDSU also had waterworks courses to teach operators about chlorination, operating filters, and general chemistry. Dr. James Dornbush, professor of sanitary engineering at SDSU, explained the circumstances. "Nationwide, federal grants intended to build up the manpower of the nation with people who knew what they were doing in the environmental field were going to universities, and I was fortunate to get one for $150,000," Dornbush said. "That was a lot of money." Working with graduate student John Anderson (later a professor at SDSU), who had researched sewage stabilization ponds, Professor Dwayne Rollag and Dornbush organized classes and supervised students who worked evenings and weekends in the Brookings wastewater plant.

James Dornbush standing near a sludge vacuum filter installed in the late '60s as part of the renovation of the wastewater plant. Dornbush, an SDSU professor, maintained a close relationship with the wastewater department, providing advice and expertise through the years.

BY JANUARY OF 1965 sewage disposal was again making headlines. It was evident that the disposal expansion completed in 1955 and projected to take the city into the 1970s would fall far short of that. Brookings until the '60s had little industry that required the sophisticated sewage systems found in cities like Watertown and Huron, where there were packing plants; but commissioners were beginning to feel the pressure of business and residential expansion.

On Jan. 16, 1965, Gamble took the problem to the public through the *Brookings Register*.

> If you have lived in Brookings more than 10 years, you will probably remember that the citizens of Brookings

some ten years ago passed a revenue bond issue to build a new sewage disposal plant. At the time, if you did not go out to personally see the old plant, you may remember seeing pictures which were published by The Brookings Register of the 30-year-old, deteriorated and crumbling plant. Now, although the present plant is in good repair, we are again in need of additional construction at the sewage disposal plant.

Before building the proposed, much needed new disposal plant in 1955, a study was made of Brookings' anticipated growth. At that time, we believed we were very optimistic in the anticipated growth and decided to build a new plant that would take care of the city's anticipated 1972 load. Now, in 1965, in a little over half the anticipated time, we are already up to and sometimes exceeding the designed capacity of our relatively new plant.

. . . Although the new additions are needed before we have paid off the revenue bonds on the present plant, it is our hope that with our utility reserve funds, we will be able to finance these new additions without a new bond issue. The revenue, for operation and the retiring of the bonds, is procured by the sewer utility charge, which is based on 75 percent of the water usage.

. . . Keeping the utility service abreast of expansion of this magnitude creates plenty of problems, both in planning and in financing, but personally, we like it that way. We like to live in a dynamic, growing city. *(Register 1/16/65)*

The first step in expanding the city's sewage treatment was taken before the end of January 1965. J.T. Banner and Associates of Brookings brought an expansion proposal to the commission and was given the go-ahead to prepare plans and specifications. The plan included sludge handling equipment. There had been no sludge until changes were made in treatment during the '50s. Until the '60s sludge was spread out to dry in drying beds. Cities knew little about treating waste water, but state and federal standards were being tightened, and Brookings was determined to be in compliance.

The ambitious plan was announced in July 1965 by Commissioner Gamble. Estimated to cost $450,495, it would be financed without a bond issue. Some $135,000 would come from a federal grant, $111,000 would be paid by property owners when they connected to city lines and $204,000 would come from city coffers. Gamble assured utility customers that the project could be completed without issuing bonds or raising utility rates. He predicted that the expansion would accommodate growth for the "next 15 to 20 years." The proposal not only increased the capacity of the current disposal plant, but also anticipated growth in the southern part of the city. It called for a second digestor, a coil filter and a lagoon to be added to existing facilities. The lagoon permitted effluent to be treated before it was discharged into Six Mile Creek. Gamble explained:

Remembering

Sewer cleaning, as I first recall it, started with a machine called a rodder. It had a Wisconsin 10-15 horse power gas motor on it and spring steel rods that connected to make a long rotating snake. It was used until 1972 or '73 when we bought a hydraulic jetter.

The jetter ran on water pressure and the high pressure water jets actually cut off the small roots and blew away the paper and debris in the sewer mains. It ran about 800 to 1,000 pounds of pressure. The machine was basically a large roll of high pressure hose with a high pressure pump driven by a six-cylinder gas engine. We bought the machine we now have in 1986.

The new machine runs on the same principle as the old jetter except it is powered by a large diesel engine and runs at about 2,000 pounds pressure. It has a vacuum system that is incredibly powerful. It sucks all the debris the jetter loosens and the vacuum can easily pick up a 200-pound manhole cover. Many times it's sucked bricks, cement blocks or whatever is in the sewer with no problem.

Around 1983 we bought a used sewer TV camera which can be pulled through sewers to make a VHS tape to show condition of the sewer main.

–David Felton

Concrete line coming from the southeast part of town. More than eight miles of 30-inch pipe comes from town to the wastewater plant. The size of the line is large enough for three times the flow Brookings customarily experiences.

"In our system, the effluent from the final clarifier, a tank which removes any remaining solids, would be pumped to the lagoons for final decomposition. The outflow from the lagoons to the creek would be well below the standards set by the health department. Use of the lagoons would be the most economical answer.

An additional digestor, which processes solid materials, will be added as well as a coil filter. The filter would process the solids further by reducing the water content of the digested sludge.

Elimination of old sludge at the plant beds is also proposed. Gamble said these are rather costly to operate and maintain and create an undesirable odor.

"With the new sewage interceptor and the expanded plant," Gamble said, "we will have all the basic structures for both the water and sewer utilities for the continual growth of our city. Of course, as we do grow, we will have to add new wells and will have to extend our water and sewer lines into newly developed areas.

"However, we believe we will have the basic facilities to supply our growth for the next 15 to 20 years," he concluded. *(Register 7/10/65)*

The city contracted for a 70-acre parcel of land north of the municipal airport for the expansion, and later acquired additional land from two other property owners.

By 1967 plans for upgrading the sewer system had progressed to the point that total cost of the three-phase project was estimated at $742,000, federal funds to supply $251,500 and city funds $490,500. The system, which piped effluent into a lagoon to be clarified, was expected to accommodate a population of 16,000. In 1969, Mayor Frie reported that the expansion cost about $750,000 and was "all paid for."

BROOKINGS WAS GROWING to the south and east. The comprehensive study of the entire water utility completed by J.T. Banner and Associates in 1968 recommended the construction of new water facilities including a well field to be dug a mile and a half east of Brookings; a 3-million-gallon ground storage reservoir; a 4-million-gallon-per-day treatment plant to be located a half mile east of Brookings; and a pumping station, storm sewers and sanitary sewers for several parts of the city. Total cost was estimated at $2.5 million. A new water tower in the Indian Hills area was also recommended.

Commissioner Gamble announced in February 1968 that an increase in water rates and a bond issue would be necessary to pay for the planned expansion. Most earlier waterworks expansion had been funded with utility profits, Gamble pointed out.

The boost in water rates was voted by the commission to go into effect in March 1968. This meant a $2-a-month increase in the combined water-sewer bill for most users. Shortly thereafter, Paul Prussman, a

city commissioner who was often at odds with Gamble, called for an election on the rate increase. He objected also to the commission's plan to repay the loan made in 1960 to the water department by the electric department. Gamble was joined by the mayor in defending the raise. The issue played itself out in the local newspaper without coming to a vote.

BROOKINGS WAITED FOR APPROVAL of its $891,000 HUD grant before bringing the water and sewer bond issues to vote, but the commission utilized the time in trying to convince voters of the importance of approving the bond issues. Mayor Forest Frie called the water/sewer projects "an investment in growth. We simply must have this money. If we stand still, we will fall backwards, sooner or later," he said. "Financially the city is in good shape. We must provide the money for these water and sewage facilities for a project that will eventually pay for itself."

In August 1969 the commission knew that the 3M Company was moving to Brookings. While the supply of water would be adequate for 3M's needs, the facilities to deliver were not.

Time ran out on the city in October 1969. The HUD grant had not come through and 3M was ready to start its plant. The city decided to drop $60,000 from its HUD request and extend water and sewer lines to the 3M plant site, the cost to be shared jointly by 3M and the city.

The commission decided also that it had to install an additional water filter at the north water treatment site to take care of growing needs until the HUD grant was approved, bonds voted and work completed on the $2 million water and sewer projects.

Finally an $819,000 HUD grant was approved and on March 3, 1970, Brookings voters gave a 91.8 percent approval to $1.1 million in general obligation bonds to fund the city's share of improvements to the water and sewer systems. It had taken two years to get the plan from drawing board to reality.

In May of 1970 in conjunction with the widening of 22nd Avenue to four-lane, work started on the 22nd Avenue sewer phase of the city's water and sewer improvement project.

A new technique—television inspection of sewer lines—had revealed that extensive work was necessary on a portion of the system. The cost was estimated at $189,000. In 1970 a utility board had been established and responsibility for the sewer lines was shifted from the commission to the board. The board decided to apply to the Federal Water Quality Administration for help with the sewer system.

1967 — News

A space-age electronics tool was cited by the Register as resulting in "no more plumb bobs, no more strings whipping in the wind, no more constant checks on elevation and direction with surveying equipment—and a darnsite straighter sewerline, or building wall, or street curb." The tool was so new that the newspaper felt compelled to describe it.

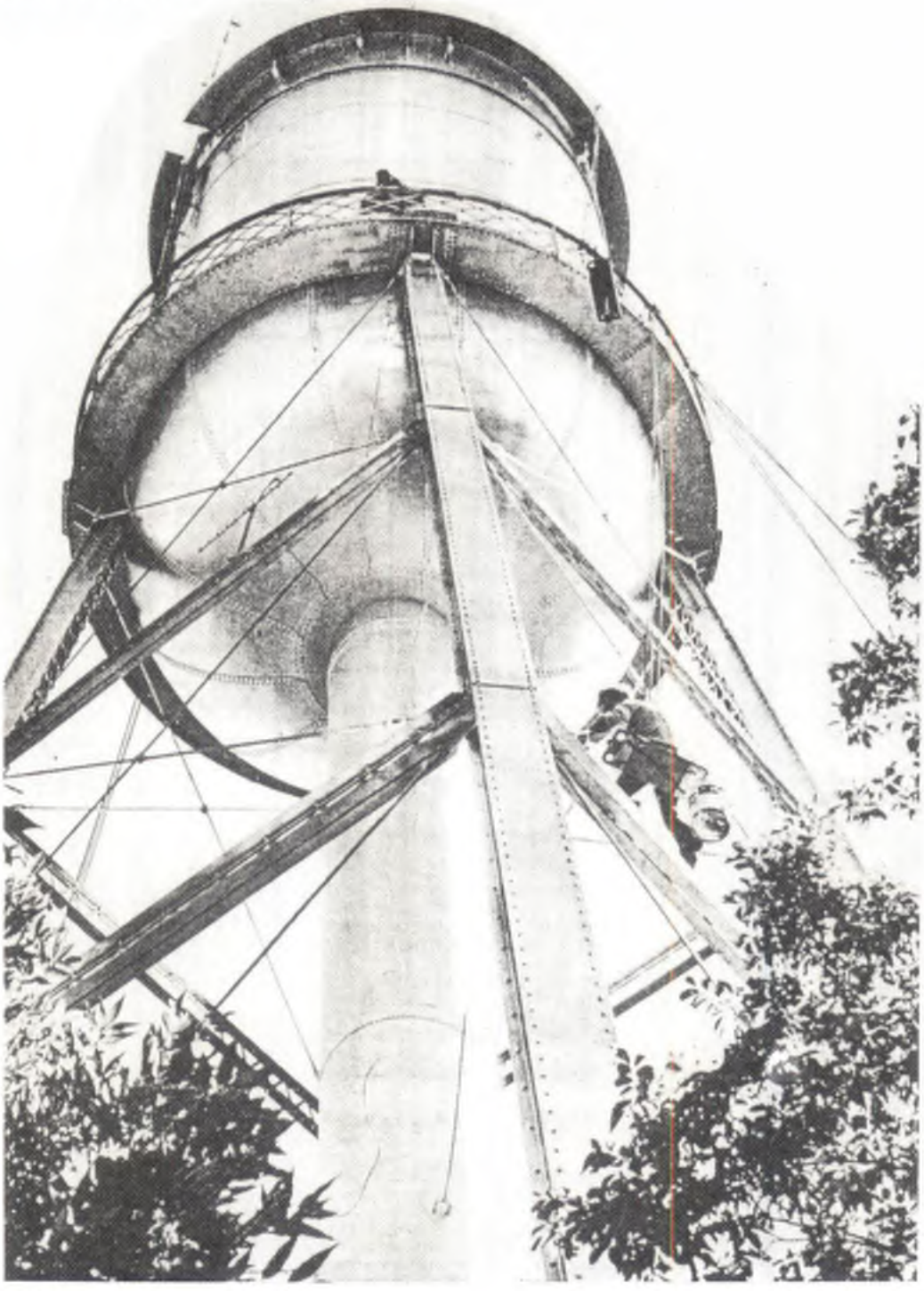
A laser beam—the first of its kind in commercial use in South Dakota—is lining up sewer pipes on a construction job on South Medary Avenue.

The laser (rhymes with razor) beam is a tiny streak of light, unique in that it does not spread appreciably over long distances. In the $6,500 piece of equipment purchased by Prunty Construction here, it shoots its thin beam over 1,000 feet without spreading.

In the sewer-construction job, the "Laserlign" box—about the size of a rural mailbox—from which the beam is directed, is lowered into a manhole and fixed on a tripod like a surveyor's transit, to shoot a beam directly down the center of the line the sewer pipe is to follow. As each section of pipe is lowered into place, a workman places a translucent disk in the end of the pipe; when the red dot of the laser beam hits the bullseye of this disk target, the pipe is in perfect alignment.

Register 5/3, 1967

The city's oldest . . .



Living dangerously

Workmen put the finishing touches on the Fourth Street watertower Tuesday after welding up holes and some seams in the 150,000 gallon tank last week. They also painted the inside with epoxy tar before applying the aluminum paint to the outside of the 141-foot structure. The tower was built in 1902 at the cost of $7,494. Today, a similar tower would cost about $160,000. The repairs cost the city $25,000 but should keep the tank in good shape for 20 years except for cleaning every three years, according to water Supt. Roland Harrington. (Register photo)

June 1, 1977

Gamble answers critic of water expansion program

Mr. Prussman wishes to refer the new water rates to the vote of the people. Does he truly believe the voter to be in a better position to establish fair rates among the water users than is an engineering firm with experience in this area? I do not know what he expects to accomplish with this vote. The water rates of both the city and the University have been under study for over a year by the Banner Engineering firm. We have realized for some time that due to the growth of our community, it will be necessary to have a revenue bond issue to meet the expanding needs of our water and sewer facilities, and that the rates which were last raised some 10 years ago, will have to be increased.

A part of the expansion was made more urgent by the building of the new high school in the south part of town. By borrowing from the electric utility funds, we were able to assure the federal government that the city's share of funds would be available. Asking for a bond issue at that time, because of the time element, would have made it impossible to get federal aid and to have completed this work in time for the school opening.

Also, as this was only part of the needed expansion, our water treatment plant is becoming overloaded. This would have meant an additional bond issue within another year or two.

The decision was made to borrow the electric utility funds and when the water expansion needs —this is in some degree tied in with the possible new industry— are determined, we would ask for a revenue bond issue to take care of the whole program. The proposed water rates would take care of these expansion costs and with no additional rate increase or the use of any tax money.

Mr. Prussman's first point is that all utilities are owned by the city, and therefore this tax money from the electric utility should not be repaid by the water utility. The water and sewer utility operates at cost and pays nothing in lieu of taxes. The electric utility rates are based on comparable rates in our area. Because of the fact that we receive Bureau power, this utility has surplus moneys which are paid to the city either in lieu projects, such as the building of the new police and fire station.

It should be obvious that any surplus moneys from the electric fund are eventually reverted to the city and in that way cut down on the property taxes needed to operate the city. If the water department does not refund this electric utility loan, this will mean that indirectly the property owner would be subsidizing the water and sewer users. To me, this does not seem necessary or desirable.

Mr. Prussman's second point was that the large user should pay more of the total water costs. The commission spent several hours with the engineering firm discussing the break-down of the water rates. The complete study is available in the city auditor's office. for those who are interested in the details. There are certain capital costs that the city must meet during the year whether any water is pumped or not. These costs are estimated in round figures at $102,000 per year. We have a total of 2,694 customers, both large and small. If each of these customers paid their minimum bills under the proposed new rate, this would amount to only about half of the annual capital costs. Besides this, of course, we have the costs of reading and billing each meter.

To me it seem rather obvious that the larger water user is not only paying for the cost of pumping and treating his fair water, but is also paying his fair share of the capital costs. Mr. Prussman's proposal of including an extra 100 cubic feet of water for each user both large and small in the base rate would mean a loss of over $9,000, which would have to be made up by raising some of the other rates. For the small user, one who uses 200 cubic feet or less, there would still be no additional savings under Prussman's proposal.

I cannot help but add that Brookings is indeed fortunate in having an adequate supply of good water, and it is our intention to keep the rates as low as possible but still expanding the facilities to meet our growing needs.

William Gamble
City Commissioner

March 6, 1968

Sludge truck used in the 1970s. From the first, digested sludge was given to area farmers whose soil was suitable.

Harold Borstad, former utilities employee, standing on the back of the new sludge truck. Sludge is injected through tines at back of truck. Sludge from the plant goes to area farmers whose land meets EPA requirements for sludge application. It is distributed within a 5- to 13-mile area of the plant.

As the utility board took on its responsibilities in 1970, a noticeable change occurred in newspaper accounts of utility activities. Gamble, who had been almost the exclusive source of information about utilities and the person quoted as the "authority" in most stories, lost his status as spokesman. Orrin Juel, who replaced Frie as mayor, had not appointed Gamble to the utility board. Gradually, the mayor, utility management personnel and the utility board member assigned to water and sewer became spokesmen for utilities.

BIDS OF $2.2 MILLION for a number of water and sewer projects were accepted in February 1971. That action allowed the city to move ahead with its big water improvement plans. Contracts went to out-of-town and out-of-state firms except for the water treatment plant on the east side of Brookings and the sewer pumping station and force main along Western Avenue. Waltz Construction Co. was awarded the treatment plant contract and Prunty and Stewart Construction the pumping station.

At this same time, many commercial installations were underway, including sewer lines to the new Holiday Inn and the Staurolite Inn.

By the summer of 1972, Wes Hays, who had been named utility manager, replacing Elmer Thon, had to announce increased water and sewer rates to cover operating costs and bond repayment. The utility board made the rate decision, backed this time by a comprehensive study performed by a consulting firm.

THE NEW WATER TREATMENT PLANT was completed, and and open house was held in August 1973. Dignitaries were present to explain the need for the facility and to praise the city's foresight in constructing a plant that met current needs and promised to meet needs well into the future.

The object of the new treatment plant, as well as the old facility north of town, was to remove the iron, manganese, calcium and magnesium from water. This was accomplished by adding lime and alum to the water to convert hardness minerals to a particulate matter which could then be settled out of the water in settling basins. The water was then run through anthracite and sand filters, where 95 to 100 percent of the chemicals were removed before it was moved to the reservoir. From the reservoir it was pumped to the towers as the system demanded. It reached residents through a 70-mile distribution system. The two treament plants could produce 7.5 million gallons of water on peak days.

CONSIDERABLE ATTENTION WAS FOCUSED on safe drinking water in the 1970s, and legislation was being passed on both the federal and state levels. In

1975 the city and water users were assured by the EPA and the state that Brookings water treatment systems met and exceeded all water protection parameters sought by the EPA at that time. The city was commended for its foresight and judgment in constructing facilities and planning operation that would meet new regulations. Daily tests were run on the water and, as required by law, numerous samples of water were sent to the Environmental Protection Department in Pierre each month to assure that all regulations were being met.

A NEW 10-YEAR PLAN for the wastewater department was announced in July 1973. A preliminary plan prepared by a consultant and the utility staff indicated that the department would be faced with substantial expenditures in order to comply with new treatment standards proposed by the EPA. Although these new regulations were forced on cities, EPA was directed by federal law to assist communities financially in constructing facilities to meet the tougher requirements.

In 1973 the city was issued an NPDEA (National Pollution Discharge Elimination System) permit which dictated the quality of wastewater that could be discharged to 6-Mile Creek from the old wastewater treatment plant. This temporary permit was given to the city with the understanding that new, more stringent requirements would be in place within two years.

To assure that it would be in compliance with the new discharge regulations expected in 1975, the city hired J.T. Banner to conduct an in-depth study and develop a treatment scheme. The report was completed in midsummer of 1975, and in October, following numerous public hearings and reviews of many federal and state agencies, it and the proposed treatment plan were approved by the utility board.

The plan called for construction of a bio-nitrification plant to be constructed on a site in the southwest part of a study area, which included the existing city limits and a three-mile area surrounding the city. This would require the construction of several miles of interceptor lines to carry the current flows from the city, as well as those that would be developed within the study area in the next 30 years. This plan changed the discharge point of the treated flow from 6-Mile Creek to the Big Sioux River. Estimated costs were $4.5 to $5 million. Engineers and city officials said the bio-nitrification process would be the "most modern in the state."

In February 1976 the utility board instructed J.T. Banner to begin design of the treatment and conveyance system to accomplish the plan. The utility staff obtained options on land for the treatment plant site and obtained easements for installation of necessary interceptor

Installation of one of the fiberglass composite pipes for the main line coming to the new plant from the southwest side of Brookings. A large backhoe lifts and sets pipe in a cut. Construction was started in spring of 1979 and continued through fall of 1980.

Rollie Harrington, supervisor of water/wastewater during the construction of the new plant, and Bill McMacken, J.T. Banners, standing in the bucket of a big backhoe at the site of the new plant.

lines. In October 1976 the city exercised its option on 80 acres of land from Gene Lass for the treatment plant site. The site was a half mile west and half mile south of the first curve south on old U.S. 77.

In obtaining easements, the utility board had problems with three landowners who refused access through their property. The owners had been offered $1 to grant permission to cross their property. The holdouts wanted more money and free hookups to the interceptor lines. The board and staff were forced to choose between condemning the property or renegotiating with the three holdouts and the 12 landowners who had already signed easements. Eventually satisfactory settlements were reached, with the city paying $1 per foot of property crossed or in lieu of the payment, providing an 8-inch hookup from which other hookups could be attached without charge.

WHEN UTILITY MANAGER WES HAYS reported to the utility board in mid-1976, he had high praise for water and sewer personnel. Although major changes because of EPA standards faced the water and wastewater department, Brookings at the time of Hays' report, probably had the only water and sewer department in the state carrying its own financial weight. He attributed the excellent financial status to in-house repairs and rebuilding and use of skilled workers in the community. Much of the water and sewer system had been rebuilt from 1970 to 1975, and total assets of the department were almost $5 million.

Construction of the new plant in full swing in 1980.

As was true of so much of utilities history, whether telephone, electricity or water, there was no time for anyone to sit back and feel satisfied with the way things were. Changes were always being planned or underway, often mandated by new government regulations. Even as Hays made his report, management and the utilities board felt the EPA breathing down their necks. Brookings had been ahead of regulations to that point, but from then on keeping ahead would require and investment equal to the entire assets of the department in 1976.

AS THE CITY MOVED toward a new, improved system, a number of problems arose. Brookings had been granted an extension of its NPDEA permit during the design stage of the new system, but in the meantime, EPA standards had been raised significantly. The new standards required additional treatment in the design, which would drive the estimated construction cost up considerably. The EPA also required every engineering firm dealing with waste to evaluate land treatment. The well-publicized research of James Dornbush, South Dakota State University professor of civil engineering, on the land use of wastewater through the infiltration-percolation method was conducted at this time. Eventually, through research under the direction of Dornbush, it was learned that land treatment, although feasible for much of the state, was not feasible in Brookings because of the nature of the soil.

DESIGNS FOR A NEW SYSTEM were well underway by 1977, and the utility staff was aggressively presenting the proposed plan to community groups. Staff members explained activities that had taken place, where the city wanted to be in the next four to five years, and what costs were anticipated. This information was considered essential for support of $3 million in revenue bonds that would be required for the city's portion of the project.

A TIME FOR DECISION on financing the new system came in March of 1977. Voters gave their approval to a $3 million bond issue.

The city at last had fought its way—or thought it had—through the ever-widening maze of federal agencies whose stamp of approval was necessary before construction could start. It was believed construction would begin in the near future. But that was not to be. A mix-up between the U.S. Environmental Protection Agency and the U.S. Corps of Engineers delayed the final approval. To add to the problem, the city learned that EPA had again changed its standards, this time to include a dissolved oxygen limit. This was the third time EPA had changed treatment standards,

Remembering

The Federal Water Quality Act of 1972 required everyone to have secondary treatment. That meant that you were going to put out a BOD of less than 30 and a suspended solids of less than 30, a pH between 6 and 9—and things like that. But the government started supplying money. They'd pay two-thirds of the plant costs. Many of the lagoons weren't doing a good enough job. So we had to upgrade. We'd just upgraded in the late 60s, and here they came again. At that time I was involved in land treatment of waste. Unfortunately, the city of Brookings didn't benefit because we didn't have the right topography and soils. They made the decision to go with a mechanical plant out south of town, and we've had graduate students—sewage treatment operators—out there since that plant started. A mechanical plant is more expensive to operate, but it's been a boon to our graduate program and to the city. Everybody wins; the students have good practical experience; and the city has labor at a reasonable cost. They've done a very good job. People don't know it but there are ducks and geese out there right in the middle of the winter where the effluent enters the Big Sioux River.

—James Dornbush

requiring more stringent specifications each time. Meeting the latest standards required changes in engineering plans and a possible year's delay in starting construction. If the city continued with its current plan, by the time the plant was constructed it would be in violation of the new NPDEA permit proposed by the EPA. This meant existing plans had to be scrapped. J.T. Banner started immediately to prepare a new set of plans to meet the latest standards.

DORNBUSH, ACTING AS A VOLUNTEER consultant, urged the city to challenge the EPA standards as higher than necessary. By the end of June 1978, an agreement of sorts had been reached with EPA. The agency lowered its dissolved oxygen requirements from 9 mg/1 to 7 mg/1 for the months of May and June. City officials, Dornbush and consultants felt the city could meet the revised requirements and accepted this change to the NPDEA permit without further objection.

To get across the highways without tearing them up, a hole was dug on either side of the highway. A steel sleeve was inserted and the pipe was run through the sleeve.

In mid-July the city received word that the U.S. Army Corps of Engineers had completed its review of the project and recommended only minor changes. The Corps review still had to be approved by the EPA, but approval was received and months of delay came to an end. Bids for the plant were set for November 9, 1978.

PROBLEMS WITH THE PROJECT were not, however, laid to rest. Design changes delayed bidding, and when bids came in, they totaled $9.3 million, a sum substantially more than was anticipated when voters were asked to pass the bond issue. It took another

four months, but at the end of February 1979 the city received telegraphic confirmation from EPA that it would participate in the additional cost. This brought the federal contribution for the new plant and the interceptors to $12 million. The city's contribution was $3 million, approved in the 1977 bond issue.

With the treatment plant under construction, the city let bids for interceptors to carry the flow from town to the new plant. Four different contractors won these bids and construction went on simultaneously with construction of the new plant.

SIX YEARS HAD BEEN CONSUMED in laying groundwork and overcoming obstacles, but the utilities board, consultants and utilities management were satisfied with the final results. In March 1979 the first workmen were on the site and by May the first concrete was poured.

Aided by a mild winter in 1980, the plant construction moved along on schedule. Equipment testing with clear water occurred in July 1980 and sewage was run into the plant by October 1980. The operation was fine-tuned by January 1, 1981, deadline set for completion. The city was in compliance with standards, and the old plant west of the city was withdrawn from service. The Corps of Engineers, inspecting the construction at every phase, had nothing but good things to say about it, and the city congratulated itself on timing.

"Brookings was definitely out in the forefront," Fred Rittershaus of Banner and Associates said, noting that other cities starting later were not apt to be granted 75 percent funding by the federal government on their projects.

OPEN HOUSE AND RIBBON-CUTTING ceremonies were held at the new treatment plant in April 1981. Visitors saw a facility that stretched more than a thousand feet. It emitted no smoke and little sound.

Some of the people who had been most closely involved in the construction and a few dignitaries were present for the ceremonies. Speakers included Virgil Ellerbruch, utility board president; Bob Neufeld, secretary of the South Dakota Department of Water and Natural Resources; Fred Rittershaus, project manager and Banner and Associates engineer; Bob Lee, vice president of O. E. Madsen and Son, the Wisconsin-based general contractors on the project; Don Holm, past utility board president; and Dwayne Rollag, head of the SDSU civil engineering department.

IN THE NEW TREATMENT PLANT wastewater is subjected to an eleborate series of procedures. It

Workers in 1980 cutting in the new line so that wastewater would flow to the new plant rather than the old.

Bottom of primary digester at the new plant after forms were set and all rerod tied in. A tremendous amount of steel is inside the poured concrete. Crews of 15 to 20 men did nothing but tie steel during construction. A total of 850,000 yards of poured concrete and an equal amount or more of prestress concrete are in the plant.

arrives at the plant through a collection system consisting of 76 miles of pipe ranging from 8 to 42 inches in diameter.

In the first step at the plant, the system lifts wastewater by way of screw pumps to a course screen, where debris is removed. From there the flow is passed to grit chambers. Here heavy particulate matter settles out. From there the flow goes to small grinder pumps, where solids are ground into a size that will pass through a 3/8 inch opening. Then it goes on through a flow-measuring flume and into settling tanks. Here the heavy sludge is pumped off the bottom of the settling tanks to digesters for treatment. From there the flow goes through rotating biological contactors, where a portion of the biological oxygen demand is removed. Then the flow is directed to aeration tanks, where air and microorganisms are mixed with the water to provide more treatment. After this process it moves on to more settling tanks, where the microorganisms are settled out and returned to the aeration tanks. The flow then enters sand filters. Here any remaining matter is filtered out before it goes on to a contact chamber where the water is disinfected by adding ozone. In the final process, the ozone is removed, and the flow is directed to the Big Sioux River.

The sludge remaining from these processes is pumped to the digesters where it is treated to produce an inert sludge that is periodically hauled away for land disposal.

Computer control centers ensure continuous efficiency of the proceses, and laboratory tests are

required at many stages of the operation. A tunnel system connects all portions of the wastewater treatment process.

WITH THE NEW TREATMENT PLANT in operation, the disposal of sludge demanded attention. In January 1982 a decision was made about how to handle it. The city had considered the construction of an open bunker silo at the plant site to store the digested sludge until it could be hauled to a land application site. This idea was soon abandoned since the South Dakota Department of Water and Natural Resources would not approve on-site storage. It was decided, therefore, to use part of the old wastewater lagoons located on the west side of the airport as a temporary winter storage site until the dried sludge could be loaded and hauled to a suitable land application site.

"State sludge regulations are strict, and disposal continues to be difficult for the department," Jim Nass, utilities engineer, said.

UNDER AN AGREEMENT with SDSU's College of Engineering, graduate students continue to man the plant after normal working hours and on weekends and holidays. This arrangement, mutually beneficial to the city and to the college, has been continued without interruption.

Reflecting on wastewater treatment since the new treatment plant was put into operation, Utility Manager Craig Osvog said, "The wastewater treatment system is considered 'state of the art' and adequate to meet requirements for the next 15 to 20 years. EPA standards are met and Brookings can handle a population in excess of 30,000. Because of federal and state help, the cost to citizens of Brookings was surprisingly low."

ANTICIPATING EPA REQUIREMENTS is an ongoing exercise for water and wastewater personnel. In 1987 the department started planning for the industrial pretreatment program they expected EPA to mandate. In 1990 an industrial pretreatment coordinator was hired to supervise the program, which is designed to prevent pass-through of toxic material at the wastewater treatment plant and to protect personnel and equipment from toxic, corrosive or explosive chemicals entering the plant. It is expected that the complete program will be implemented by the end of 1993.

BROOKINGS' WATER SUPPLY, wastewater treatment, and distribution were considered excellent in 1990, among the best in the state. No new major projects were being considered. Water and water treatment no longer dominated the city's news. Stories about utilities

Wastewater flows by gravity to the plant. Once there, it has to be lifted about 18 feet into the plant by screw pumps. Pictured here as they arrived for installation at the plant are two of three pumps. Two pumps are ready for use at any time, the third is backup for maintenance or repair. Each auger can pump 5.25 million gallons a day.

The last stages of construction of the wastewater plant. Sodding was completed and some grass had been planted next to the building. A crew is pouring the concrete street in front of the building.

Remembering

It was difficult getting a piece of ground where all the neighbors agreed it was o.k. to build a sewage plant. The common feeling was "I don't want a sewage plant in my back yard." But I think we've proven to be pretty good neighbors. We've had no complaints by the locals out here. Everything has gone pretty well. The odor is just about nonexistent because of the type of treatment we have. So we've had no trouble that way. The type of soil, of course, had to be considered because you had to have good basis or footings or good subsoil for all your footings to sit on. Being it was gravel, everything worked out quite well. They used a lot of the gravel they moved around out here for their construction, for fill here and there. We have borrow pits out back that are wildlife ponds now. Another advantage was that it's gravity flow from town, so we didn't have to add any lift stations to pump it out here. Good soil, fairly close to town, downhill all the way—those are factors that made the site ideal.

—John Wirtz

were more likely to cover subjects like meter reading and hydrant painting rather than bond issues.

The city maintained two water treatment plants which could produce about 7.5 million gallons per day of treated water.

The underground source of supply for the newest treatment plant was from an aquifer located a mile east of the plant. The aquifer covered an area of about 20 sections and had a drainage area into the aquifer of approximately 130 square miles, providing for an average recharge of water into the aquifer of 9 billion gallons annually.

This plant could provide 4 million gallons of treated water daily from three large pumps. Additional pumps could be added as needed. A 3-million-gallon ground storage tank adjacent to the treatment plant provided the immediate supply to meet critical peak-hour conditions. A second treatment plant north of the city was supplied from seven wells with a daily capacity of 3.5 million gallons of water daily.

The distribution system, developed through the years as the growth of the city required, was meeting demands. Distribution pipe had been installed each year since the beginning of the system and now, pipe ranging from 4 to 20 inches in diameter, totaled 79 miles, and the city had 553 fire hydrants.

The distribution system functioned in two service areas, interconnected through two pressure-reducing stations. All normal water needs could be maintained from either of the treatment plants in an emergency.

Distribution pressure and supply were maintained by the towers on 22nd Avenue, Sixth Street, Fourth Street and 20th Street South. The combined capacity of the towers was 1,650,000 gallons.

THE LAST ELEVATED WATER STORAGE UNIT erected in the city, was started in Indian Hills in the fall of '83. Plans for the unit had been announced in the early '70s. Because of the huge water and sewer expense the city faced, the plan was pushed aside. The original capacity planned was 500,000 gallons at a cost of $400,000. By the time the tower was completed in the fall of '87, capacity had increased to 750,000 gallons and cost to $769,700.

ONE OF THE FINAL ACTIONS of the water department in 1990 was to take on a new water customer—Aurora. Like many towns in eastern South Dakota, Aurora had rising nitrate levels in its drinking water. It could choose to develop its own filtration plant, cooperate with the Big Sioux Rural Water System, purchase water from the Brookings-Deuel Rural Water System, or buy water from Brookings. It chose Brookings water.

Brookings fortunate in Judge Knight's gift

Some of the old-timers in Brookings remember Judge W. Knight and are among those aware of his important gift to the city.

In interviews conducted for "By the People, For the People," Charles Chester and James Dornbush mentioned Judge Knight's gift of land east of Brookings.

"Judge Knight's contribution of the land and its water and mineral rights was significant," Dornbush said. "Three wells east of town are located on the donated land."

Chester commented that Brookings was "very fortunate in the abundance of water it has."

"The most wonderful thing that ever happened was when Judge Knight donated the land to the east of Brookings. The aquifer there is marvelous," Chester said.

Meter Maintenance in 1957

Clarence Murschel, superintendent of the municipal water department, is shown here with a water meter — part of a display that was placed in the Waltz hardware window Wednesday. Both old and new meters are shown, including cut-aways to show the operation of disks and gears, new meter parts and old meters that have worn out or sprung due to freezing, etc.

"There are approximately 1,900 meters in the city," said Murschel, "and about 80 per cent of these are residential. A program to have owners sign the meter over to the city for maintenance — and replacement — is lagging, and we'd certainly like to see everyone included in this changeover."

With city ownership of the water meters, financial responsibility for maintenance, repair and replacement is removed from the individual property owner.

Murschel pointed out there are approximately 80 basic parts in a meter, and one man can clean and repair approximately three or four a day — with about eight in the shop at all times awaiting maintenance.

The municipal water superintendent noted the meter shop at Second street and Seventh avenue is open daily, and he invited citizens to visit the shop to witness testing and repair work.

June 2, 1957

WATER TREATMENT PLANT

from informational pamphlet prepared by J.T. Banner and Associates, Inc.

Water Supply, Distribution

The City of Brookings obtains its water supply from underground sources only. The underground source of supply for the east treatment plant is from an aquifer located about one mile east of the new plant. The aquifer covers an area of about twenty sections and has a drainage area into the aquifer of approximately one hundred thirty (130) square miles. This drainage area provides for an average recharge of water into the aquifer of nine billion gallons annually.

The new treatment plant has the capability of providing 4,000,000 gallons of treated water daily from three large pumps. More pumps can be added in the future as needed.

The city also maintains another water treatment plant one mile north of the city. Its source of supply is also from underground wells. There are seven wells in operation at this location with a daily capacity of 3.5 million gallons. This provides for a combined capacity of 7.5 million gallons of water daily for the city's needs.

A three million gallon ground storage tank is located adjacent to the new water treatment plant. This facility provides a supply of water to the distribution system at the rate that demand requires and provides the necessary immediate supply to meet critical peak hour conditions.

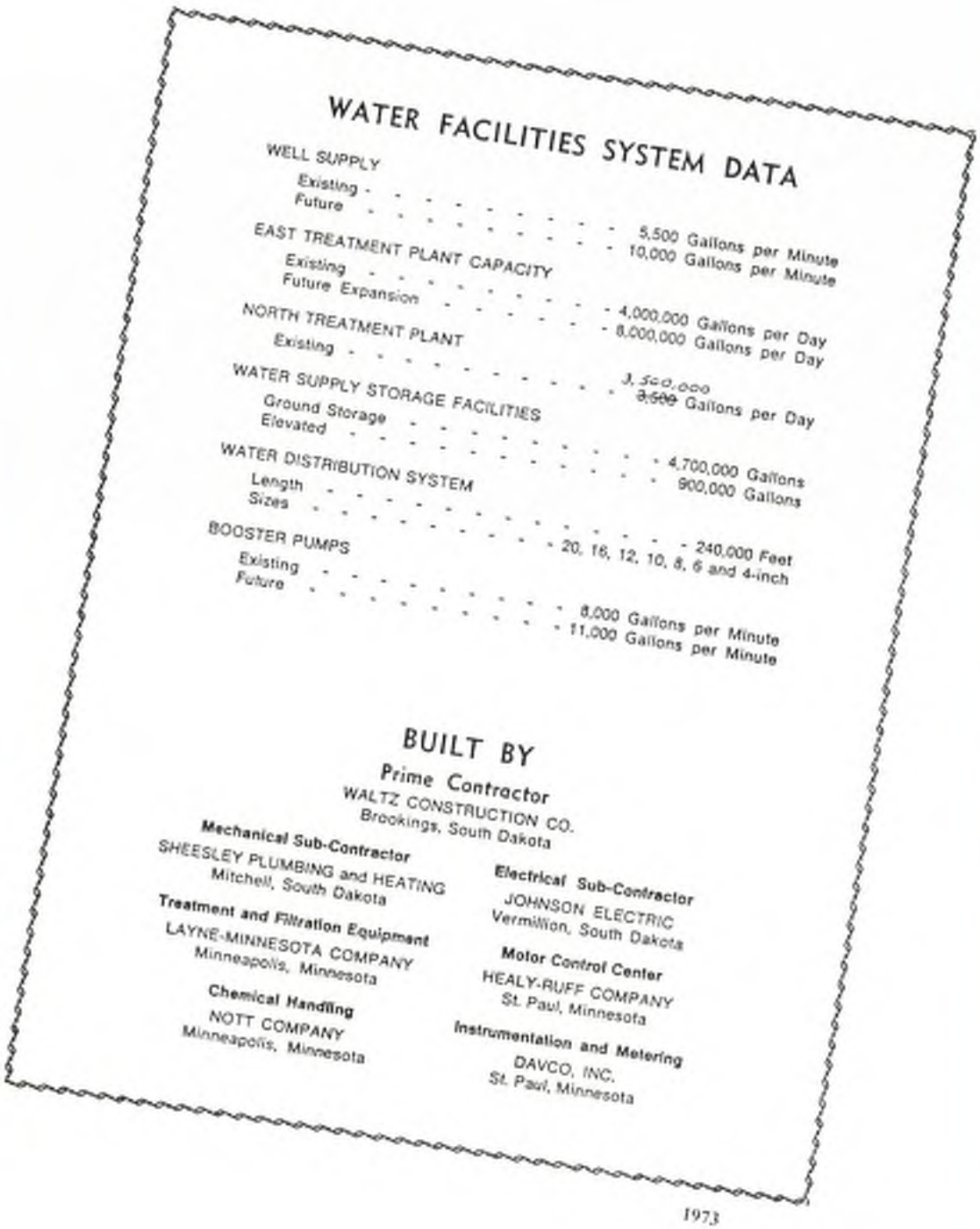
The water distribution system consists of 240,000 feet or over 45 miles of distribution piping. These pipes range in size from 4" up to 20" in diameter. There are 425 fire hydrants, many valves and other incidentals. Distribution pressure and supply is maintained by three stand pipes located on 22nd Avenue, Sixth Street, and Fourth Street. The combined capacity of the stand pipes is 900,000 gallons of water.

The city distribution system is divided into two service areas. Part of the city is supplied from the north side treatment plant, the balance from the new plant. The two systems are interconnected through two pressure reducing stations. All normal water needs could be maintained from either of the treatment plants in an emergency.

1973

WATER TREATMENT PLANT

from informational pamphlet prepared by J.T. Banner and Associates, Inc.



WATER FACILITIES SYSTEM DATA

WELL SUPPLY
- Existing - 5,500 Gallons per Minute
- Future - 10,000 Gallons per Minute

EAST TREATMENT PLANT CAPACITY
- Existing - 4,000,000 Gallons per Day
- Future Expansion - 8,000,000 Gallons per Day

NORTH TREATMENT PLANT
- Existing - 3,500,000 ~~3,600~~ Gallons per Day

WATER SUPPLY STORAGE FACILITIES
- Ground Storage - 4,700,000 Gallons
- Elevated - 900,000 Gallons

WATER DISTRIBUTION SYSTEM
- Length - 240,000 Feet
- Sizes - 20, 16, 12, 10, 8, 6 and 4-inch

BOOSTER PUMPS
- Existing - 8,000 Gallons per Minute
- Future - 11,000 Gallons per Minute

BUILT BY

Prime Contractor
WALTZ CONSTRUCTION CO.
Brookings, South Dakota

Mechanical Sub-Contractor
SHEESLEY PLUMBING and HEATING
Mitchell, South Dakota

Electrical Sub-Contractor
JOHNSON ELECTRIC
Vermillion, South Dakota

Treatment and Filtration Equipment
LAYNE-MINNESOTA COMPANY
Minneapolis, Minnesota

Motor Control Center
HEALY-RUFF COMPANY
St. Paul, Minnesota

Chemical Handling
NOTT COMPANY
Minneapolis, Minnesota

Instrumentation and Metering
DAVCO, INC.
St. Paul, Minnesota

1973

WASTEWATER TREATMENT FACILITIES

from informational booklet prepared in 1981
by J.T. Banner and Associates, Inc.

Wastewater Treatment Plant

In 1974 the City of Brookings, the South Dakota Department of Water and Natural Resources, and the U.S. Environmental Protection Agency recognized the need for improvements to the wastewater treatment facilities at Brookings, South Dakota. The existing treatment facility was overloaded and provided inadequate treatment for the specified beneficial uses of the Big Sioux River. The first step, the Facility Plan, evaluated the growth projections for the City, the future needs for treatment system expansion, the proposed effluent quality requirements, and the alternatives available to meet the needs of the City of Brookings. Among the alternative considered was the construction of a new facility at a new location to treat the flow from the entire projected population. The location selected for the new facility is approximately 5 miles south of the original wastewater treatment facility. Interceptor sewers were required to transport the wastewater to the new facility. The interceptors were designed as a gravity system, eliminating a major lift station within the City. Project design commenced in July, 1976 and was completed in January, 1978. Bids for construction of the treatment facility were taken in November, 1978 and construction commenced in April, 1979. Bids for the interceptor sewer projects (six total), were taken in November, 1978 and March, 1979. All projects were essentially completed by October, 1980 and the treatment facility was placed into service at that time.

The capacity of this treatment facility is:

Average day flow	- 3 million gallons per day
Peak day flow	- 6 million gallons per day

The construction costs were:

Interceptor Lines	- $ 2,600,000
Wastewater Treatment Facility	- $ 9,350,000
Total	- $11,950,000

GENERAL CONTRACTOR

Wastewater Treatment Facility - **Orville E. Madsen & Son**
Hudson & Madison, Wisconsin

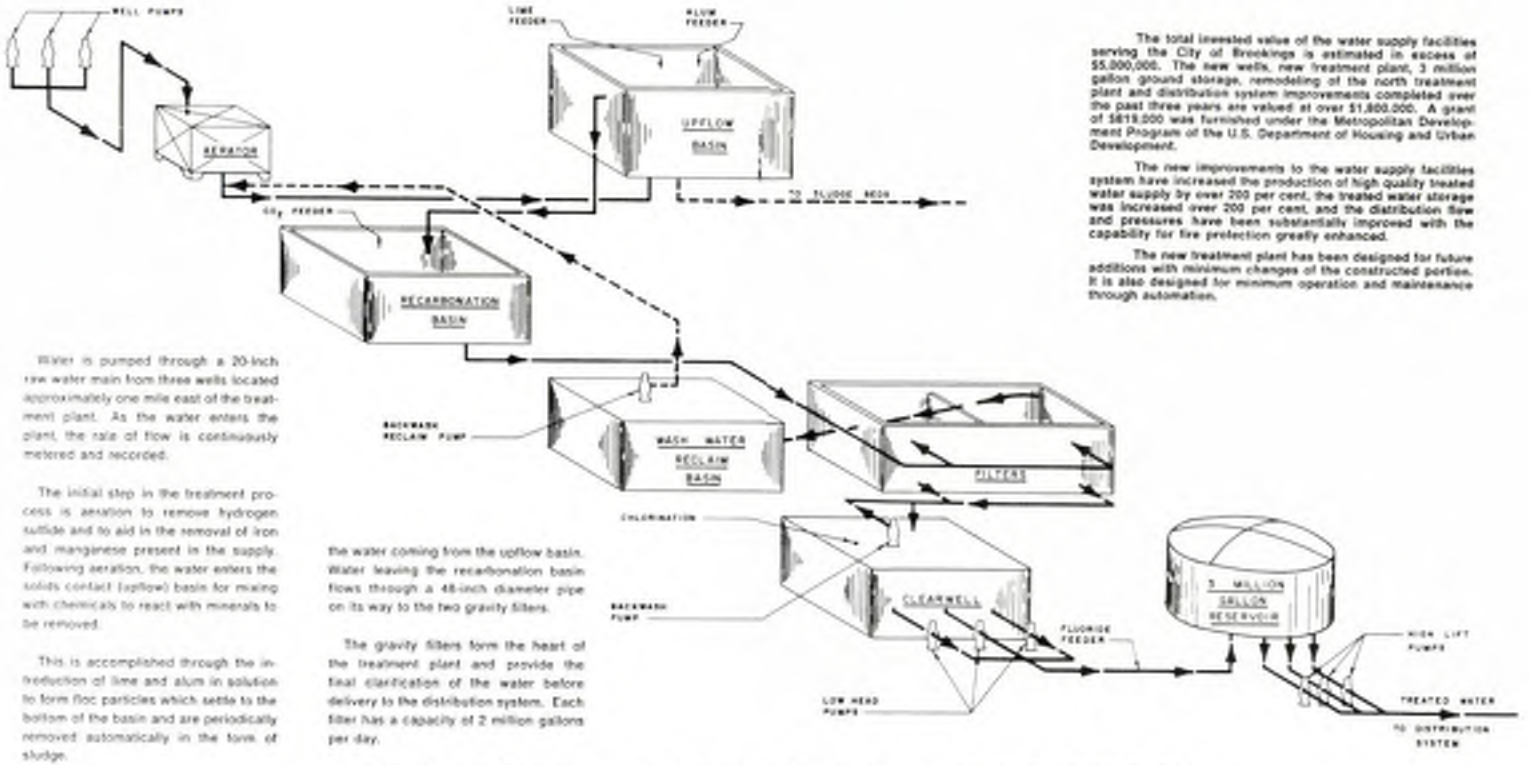
DESIGNERS

Architectural, Civil, Control, Instrumentation and Structural - Banner Associates, Inc.
Brookings, South Dakota

Mechanical and Electrical - Kenneth K. Bastian & Assoc.
Sioux Falls, South Dakota

1981

Wastewater Treatment Schematic



The total invested value of the water supply facilities serving the City of Brookings is estimated in excess of $5,000,000. The new wells, new treatment plant, 3 million gallon ground storage, remodeling of the north treatment plant and distribution system improvements completed over the past three years are valued at over $1,800,000. A grant of $819,000 was furnished under the Metropolitan Development Program of the U.S. Department of Housing and Urban Development.

The new improvements to the water supply facilities system have increased the production of high quality treated water supply by over 200 per cent, the treated water storage was increased over 200 per cent, and the distribution flow and pressures have been substantially improved with the capability for fire protection greatly enhanced.

The new treatment plant has been designed for future additions with minimum changes of the constructed portion. It is also designed for minimum operation and maintenance through automation.

Water is pumped through a 20-inch raw water main from three wells located approximately one mile east of the treatment plant. As the water enters the plant, the rate of flow is continuously metered and recorded.

The initial step in the treatment process is aeration to remove hydrogen sulfide and to aid in the removal of iron and manganese present in the supply. Following aeration, the water enters the solids contact (upflow) basin for mixing with chemicals to react with minerals to be removed.

This is accomplished through the introduction of lime and alum in solution to form floc particles which settle to the bottom of the basin and are periodically removed automatically in the form of sludge.

Clarified water is removed from the surface of the basin through launder troughs and flows to the recarbonation basin.

In the recarbonation basin, carbon dioxide is added in solution to stabilize the water coming from the upflow basin. Water leaving the recarbonation basin flows through a 48-inch diameter pipe on its way to the two gravity filters.

The gravity filters form the heart of the treatment plant and provide the final clarification of the water before delivery to the distribution system. Each filter has a capacity of 2 million gallons per day.

After passing through the filter bed, water flows to a clearwell storage located in the lower level of the plant. Chlorine is applied into the clearwell for disinfection of the treated water.

Provisions are made for periodic backwashing of the filters. Water utilized for backwashing is reclaimed and recycled through the entire treatment process. From the clearwell, low head pumps transfer the water through a 20-inch treated water main to the 3-million gallon ground storage reservoir. Fluoride is fed into the main as it leaves the treatment plant.

Treated water is supplied to the distribution system from the ground storage reservoir by three high lift pumps. These pumps are automatically started and stopped from the controls located in the treatment plant in accordance with the water demand from the distribution system.

1981

Water/Wastewater
Events of Interest, 1893-1982

1879 – First water supply for Brookings was a well 6 feet in diameter and 1000 feet deep. People brought buckets to the well for water.

1888 – Artesian well completed on Main Avenue, now the site of Brookings Recreation Center.

1890 – Well field one mile west of the Utility Building supplied the city with water.

1891 – Bonds issued to pay for laying mains, building reservoir.

1901 – Four miles of new water main laid.

1902 – First water tower, Fourth Street.

1908 – New $60,000 sewer system completed.

1909 – South Dakota Ag College buildings connected to city sewer.

1917 – Running water added to Park Hotel.

1934 – New filtration plant in operation.

1935 – New filtration plant and well field north of the city put in service.

1948 – Second water tower, Sixth Street.

1954 – Modern sewage plant constructed to replace the old system. This facility provided sewage disposal service for homes, businesses and SDSU.

1954 – Water use reaches 1,764,000 gallons.

1957 – Major expansion undertaken to increase treatment capacity to 3 million gallons per day and ground storage capacity to 1.7 million gallons.

1957 – New sewage interceptor line installed.

1961 – Fluorine added to water.

1963 – Third water tower, 22nd Avenue.

1970 – $819,000 HUD grant approved.

1973 – New water treatment plant completed.

1977 – Voters approve $3 million bond issue for water treatment.

1980 – New wastewater treatment plant in operation south of Brookings.

1981 – Wastewater treatment plant open house.

1987 – Fourth water tower, Indian Hills.

1990 – Aurora becomes customer for Brookings water.

Chapter 3 – Electricity

> E.E. Gaylord is one of the busiest men in town. He repairs lawn mowers, gasoline stoves, engines, makes models, and in fact he is as indispensible as a bridegroom at a marriage ceremony. *Brookings County Press, 7/11/1890*

THE EARLY HISTORY OF UTILITIES in Brookings is replete with the contributions of far-sighted, inventive men, but none was more colorful than Edwin Ellis Gaylord, who built the first successful electric dynamo plant put to use in Brookings. With it he amazed the citizens of the city by lighting the streets on the 4th of July 1887. A crude machine operated by a kerosene engine, the dynamo produced electric power for just three street lights, a great improvement over kerosene street lamps.

In 1880, Gaylord had come to Brookings, bought a lot and built next to the Farmers National Bank. Here he ran a photograph gallery and furniture store and studied mechanics during his leisure hours. He organized a city band and – shades of the "Music Man" – wired Chicago for instruments. Gaylord himself served as drum major. He was also a member of the Brookings Fire Department from the time of its organization. He studied ophthalmology and practiced in Brookings. In addition, he constructed a moving picture machine, showed the first silent movies in Brookings, and with his wife, a professional pianist, traveled in several states to show movies. Even though his education and vocabulary were limited, he was master of ceremonies for the films and provided the dialogue for the silent actors.

Without question, Brookings was fortunate that Gaylord came to town as early as he did, bringing with him the imagination and enthusiasm to recognize, then introduce, the revolutionary possibilities of a new source of power.

In April 1887, Brookings granted a franchise for an electric light plant to the Brookings Electric Light Co., a stock company formed by Gaylord. The three lights on Main Street were supplied to the city by Gaylord at a cost of $25 a month. By the close of the next year 32 buildings had electricity.

The excitement generated by the early electric lights was reflected in a *Press* article:

> Mr. E.E. Gaylord has kindly volunteered to illuminate the M.E. Church tonight, for the ladies' aid society, who

Early lights on Main Street may have lacked sophistication, but they were greeted with wonder and delight by citizens. Lighting provided by a bulb hanging on a wire stretched across the street gave way to a light suspended from an arc across the street and later to lights on poles in the middle of the street. Finally, lights were moved out to the side of the street. There the bulbs were contained in globes and mounted on sturdy metal poles.

Photos, Agricultural Heritage Museum.

> are to give a fair and supper in the church. Mr. Gaylord is arranging to place eight or ten incandescent lights in the church building under globes of various colors. Everybody is invited to turn out and witness the effect of the gorgeous display of light. *(Brookings Press 11/17/1887)*

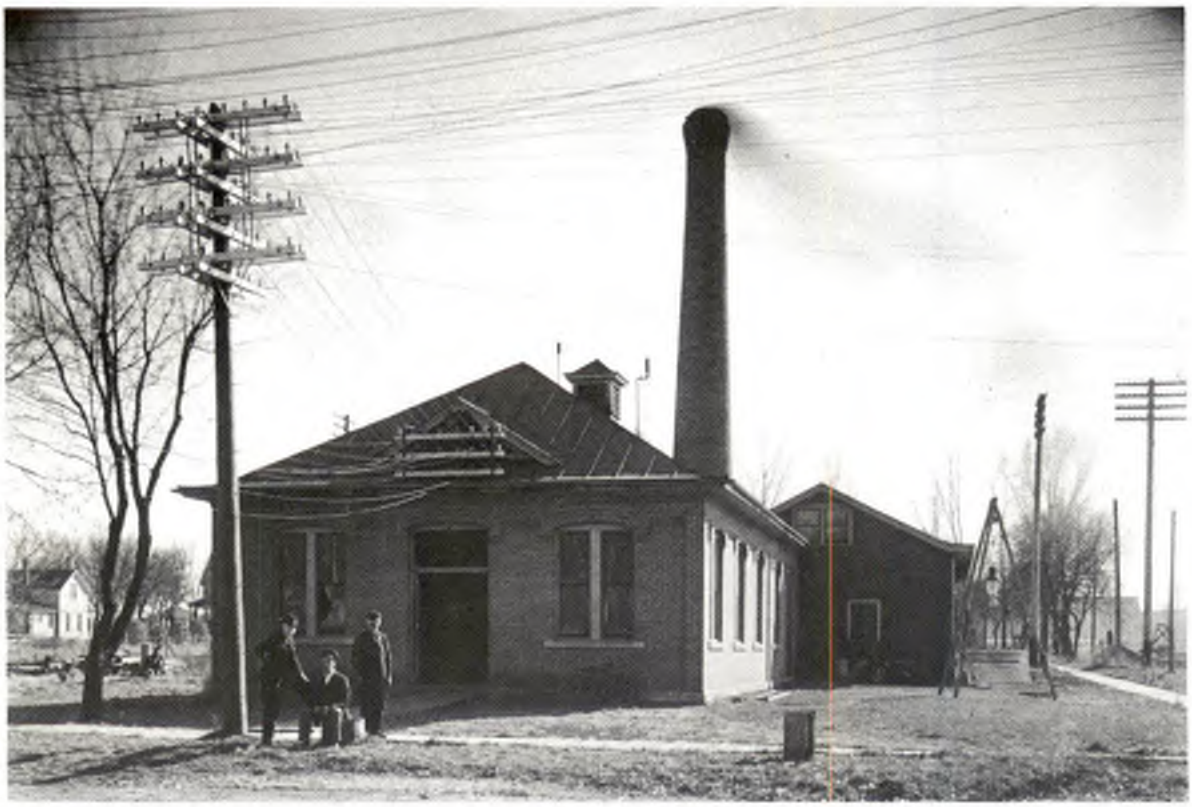
In July 1888 incorporation of the company was authorized and directors elected. On the board were A.J. Dox, Louis Parnaud, George W. Hopp, P.C. Murphy and Horace Fishback. Within a month light poles were set and wires were in position. The engine and boiler arrived and, never lacking in optimism, the local newspaper proclaimed, "It is highly probable that Brookings will be extensively illuminated by the last of next week." The talented Mr. Gaylord failed to meet that date, but he did have things under control by early fall.

Residents were enthralled with electric lights and obviously overlooked frequent service interruptions.

In April 1890, the city leased to Gaylord the south half of city hall, erected in 1889, to be used as a machine shop and "Engine and Electric Light Plant." He shared the facility with the city's waterworks.

ELECTRIC LIGHTS WERE SUCH A MIRACLE for Brookings residents that it is no surprise that Gaylord and the company were held in awe in the first years

The power house as it appeared in 1908.



Gaylord amazes Brookings citizens by 'lighting up' his wife for special event

E.E. Gaylord, who installed the first lighting system for Brookings, had no reservations about using his wife to illustrate the marvel of electricity.

In 1958, Gaylord's son, J.A. Gaylord of Seattle, Wash., provided a photo of his mother used in the publication, *Western Electrician,* April 12, 1890. The accompanying story said:

"The greatest event in the history of Brookings, S.D., according to the local papers, was the Merchant's Carnival which took place in that city a few nights ago. During the course of the festivities at the opera house every industrial enterprise in the thriving town was illustrated by a lady dressed in an appropriate costume representing some distinct feature of the industry.

"Of course, the electric light company's exhibit carried off the honors of the evening. Its representative was Mrs. E.E. Gaylord, wife of the manager and electrician of the Brookings Electric company. The accompanying portrait gives a general idea of the installation. As a representative of the electric light Mrs. Gaylord wore a crown of incandescent lamps and her dress was decorated with the same ornaments. The lamps were all properly connected, the wires terminating in the heels of the shoes. On the floor of the stage were two small copper plates connected to a small dynamo. When Mrs. Gaylord reached the plates the 21 lamps of her crown, banner and costume instantly flashed up and she stood clad in 'nature's resplendent robe without those

besting beauty all were wrapt in unessential gloom.'

"The dynamo which generated the current for the lamps was made by Mr. Gaylord."

WILL HEAT SCHOOL BUILDING

Council Adopts the Webster Exhaust Steam Heating System

CITY ATTORNEY HALL RESIGNS

J. P. Cheever Elected His Successor. Routine Business of the City

The city council met in regular session Monday night. The routine work of the evening was first disposed of. H. L. Walker was granted permission to put in one more pool table. Philo Hall resigned the city attorneyship. J. P. Cheever and Olaf Eidem were nominated to succeed him and on ballot Mr. Cheever received five votes and Eidem three. J. P. Cheever is now our city attorney.

The property owners on the south side of Sixth street made an offer of $525 for the forty feet on the north side of their lots from Sixth avenue to Main street. This is the forty foot jog in the street caused by the platting of different additions to the city. The council accepted the proposition and agreed to vacate the tract mentioned to the various abutting owners. This will straighten out Sixth street and permit of a straight sidewalk from Main street east.

Messrs. Davis and Solberg who were sent as a committee to investigate the Webster system of exhaust steam heating, then made a report which was favorable to the system and recommended its adoption in connection with the city schools. The members of the board of education being present the question of heating was thoroughly discussed.

There being nothing upon which to base the actual cost or value of such service from the city to the board, it was decided to use the cost of the last two years use of the present heating plant on which to base a proposition for the coming year. After considering the sum paid for coal and other items the board offered the city $1000 for heat and operation of the ventilation system for the coming school year. This was accepted by the council.

The specifications and bid of Pond & Hasey of St. Paul for the plant were accepted. This firm contracts to furnish and install the plant for $1790. These specifications will necessitate the city furnishing power to run the ventilating fans by an electric motor.

With the adoption of this system we will take the first step in a line of improvement, the value of which to our city cannot be measured until practically tried. It means for us a continuous lighting service, a thing greatly needed, and it further opens up the possibility of exhaust steam heating for the merchantile establishments in the business portion of the city. With an all day current it will be possible to supply power at all times to run motors that can be utilized to run machinery. Unless one takes the time to investigate the matter it is almost incredible the number of uses to which the electric current can be put. An all day electric power means much for the merchantile developement of our city. Many a minor industry, that could not afford to build a power plant of its own, could be accommodated with power sufficient to fill its demands. Many a convenience could be used to advantage in the home. While much could be saved to many a family by having this power available. To use one illustration, just think of the wear and tear on the housewife in being able to have a motor handy to run the sewing machine. Think of the sickness avoided and doctor bills saved. How much happier the wife and more pleasant the home. Public utilities can be made public benefactions. This city is coming to the place where these things will not only be possible, but probable.

Oct. 27, 1897

Light and heat!

ALL NIGHT LIGHT SERVICE

ELECTRIC LIGHTS WILL BURN FROM SUNSET TILL SUNRISE.

MAJESTIC RANGE COOKING EXHIBIT

The Rebecca Social—The Shakespeare Lectures—President Chalmers Entertains College Faculty—Church Notes and Local News.

Commencing with last night the municipal electric light plant inaugurated the all night run, thus giving the patrons light at all times between sunset and sunrise. It is further contemplated to start the lights on dark days as soon as they are needed, in other words to so accommodate the starting and likewise the shutting off of the lights so as to meet with the actual needs of those using them. On dark and cloudy days this will mean starting earlier in the afternoon and shutting down later in the morning. This action on the part of the city council will thus make the electric lights a public utility in fact as well as name.

Nov. 5, 1903

News in 1903

A SUDDEN TAKING AWAY.

E. G. Davis, City Engineer of Brookings is Dead

On Tuesday evening just as the vast crowd of people were viewing the electrical fountain display word was passed from mouth to mouth that City Engineer Davis had been killed or had suddenly died while at work in the city power station.

Mr. Davis and Wm. Kjolseth were running the electrical machinery during the evening so as to let John Hanson, the regular electrician, witness the spiral tower and electrical fountain attractions. The hose connecting the fountain with the water main burst and Mr. Kjolseth was called to the engine house to get another section of hose. He returned in five minutes and not seeing Mr. Davis at the switch board started for the boiler room, taking one step forward he saw the form of Mr. Davis stretched out on the floor, motionless. Mr. Kjolseth ran and shook Mr. Davis and called to him. Receiving no response he ran to the door and called for someone to bring, a doctor. Mr. Kyte the telephone operator, heard the summons and succeeded in rousing Dr. Coll Very soon Drs. Tennant, Coller, Kl ness and McCracken came, but it evident that life was extinct and attempts to restore respiration fruitless.

The body was removed to th West & Co's undertaking ro yesterday morning a coron was empaneled by Coroner and composed of Messrs. W. I H. B. Mathews and L. H. the evidence was heard i hall.

The several employees a house gave evidence, and dered its decision last ev for the REGISTER to get ing to press.

From all the evidence produced little points toward a probability of Mr. Davis having been killed by an electrical current, while there is much to give one an idea that death came from natural causes. We withhold our opinion until after the verdict of the jury has been made public, and will in our next issue be able to present all details.

Aug. 1903

CITY EMPLOYEE RESIGNS

J. M. HANSON FORCED TO GIVE UP NIGHT WORK

HIS HEALTH WAS BREAKING DOWN

Has Accepted Position as Day Engineer at Flour Mill—Two New Engineers are Employed at Power House—The Force Now Numbers Six Men.

John Hanson has been compelled on account of his health to give up his position as an engineer at the power plant. The night work was telling on him and his physician insisted on his giving up the work. He was offered and has accepted the place of engineer at the flour mill and believes that with day work and regular hours it will be possible for him to continue in employment as an engineer. Mr. Hanson has proved a faithful and efficient public servant and his resignation is regretted. Geo. P. Sexauer is to be congratulated on having been able to obtain his services.

At the power plant two engineers will divide the work between them, one going on at 12 o'clock noon and the other at 12 o'clock midnight. The men are both new to the city and are John W. W... of Chicago, and Frank ... Hawarden, Iowa. Mr. ... owner of a farm near Vol... in the county looking a... thereon. Mr. Chatterton ... ed under City Engineer ... Hawarden, who speaks h... proficiency.

The city now has on its pay power plant five men, besid... engineer.

Nov. 5, 1903

Main street is all torn up this week, as the pipes for the central heating plant are being laid from the power house to the corner of the Century block. When the editor of this paper struck town fourteen years ago the street resembled its present appearance, as at that time the first waterworks plant was being put in by Perry Morgan. Ever since then there has been something doing on Main street, and it has been in a disturbed condition. When the heating plant and the cement walks are finished there does not seem to be any further occasion for digging up the street, but we presume the sewer will be dug up and relaid next summer. There is nothing like living in a big, busy city, but it has its penalties, and torn up streets is one of them.

Oct. 15, 1903

The Father of Electricity in Brookings

You are Invited to

Call and inspect the

Optical Parlors

I have just fitted up — see how well I am equipped to do good work

I Thank You Brookings

A Satisfied Customer is the Best Advertisement

Hundreds can testify as to the high class of work I turn out
Call anyway and see for yourself

Gaylord the Optician

Gaylord Building, Two South of Post Office

CITY ARRANGES ELECTRIC HEAT DEMONSTRATION

The city commissioners have arranged a very interesting and practical demonstration of standard electric ranges for the patrons of the power plant. The demonstration will be held at the city hall Wednesday and Thursday of next week, under the direction of Miss Henrietta Conway, an experienced demonstrator from the Northern States Power company.

The demonstrations will be held from 2 to 5 p. m. and from 7 to 9 p. m. Wednesday, and from 7 to 9 a. m. and 2 to 5 p. m. Thursday. Miss Conway will prepare an entire dinner on the standard range and will serve samples to the visitors. The commissioners would like to have everyone call some time during the hours of the demonstration.

March 4, 1926

of operation. Progress was reported frequently: electric lights were installed in the bandstand; street lights were fitted with wire rope and patented hoists to "insure that the traveling public will not be in danger of getting thumped on the head by falling lamps"; a boy escaped being "crushed" by a globe as it was lowered by workers.

The $105 per month charge for Gaylord's services was high for that time, but at least some townspeople felt they were getting their money's worth.

> Some say this is poor economy. Let us see. If the electric light machinery was taken out, the city would have to purchase new machinery for the waterworks, and employ a man to look after the same at an expense of at least $75 per month. Then the city would be obligated to buy all the coal to keep the steam pressure up, also coal for heating the engine house and council room while at the present these apartments are heated by steam at no expense. A little figuring will convince all that it would be poor economy to have any change made in the system. *(Press, 4/10/1891)*

Gaylord, whose imagination seemed to have no limit, built a bathroom in the rear of city hall, adjoining his shop. The room and bathwater were heated by steam, a by-product of producing electricity.

The practicality of using the same power source for both water and electricity was recognized from the first, although there was occasional discussion about the cost. By March 1893, the city council confronted options to buy, rent or lease Gaylord's steam plant. It bought the plant for $1,575 (bathroom included) and accepted Gaylord's offer to keep up the steam and water supply for $1 per day, plus $100 monthly for furnishing power and repairs. The city council accepted these terms even though the city was without lights at the time because an armature was being rewound. Gaylord, however, was told to vacate the part of city hall occupied by his machine shop.

A month later E.G. Davis, Gaylord's assistant, was appointed superintendent and engineer of the city's steam plant at $75 per month. He served for 12 years in that capacity and was destined not only to achieve the acclaim Gaylord had received but to be revered by the community until his death.

AFTER LIGHT, THERE WAS DARKNESS. Disenchantment with Gaylord set in when a faulty dynamo thrust Brookings back into darkness in April 1893. The press reported that lights could be expected in May, then June. June came and went, and the blackout continued; in fact, it continued through the rest of the year.

It took a sizable crew to handle poles after they arrived in Brookings. Penciled on the back of this photo—probably taken in the late 1920s—was "one of those hot days when we hauled in a carload of poles, and this is the bunch. H. took the picture."

Power plant expansion started in the mid 1920s. Citizens had rejected a proposal to build a new plant but approved a $60,000 bond issue to improve the building and erect a new smokestack.

> Prospects for electric lights soon are good at this writing. The Electric Light Co. expect their dynamo from St. Paul this week, all repaired and ready for business. Very little repairing on the rest of the plant will be necessary and the city will probably emerge from its Egyptian darkness before Christmas. *(Press, 11/30/1893)*

But the city did not emerge from darkness before Christmas. When an armature arrived from Minneapolis in December, the *Press* announced, "Whisper it gently! For fear the spell may be broken." Apparently the whispering was not gentle enough. The armature was defective. Three months later reference was made by the *Press* to the "inky darkness that prevailed." When the lights finally came on, more than a year had elapsed.

Another problem soon surfaced—a shortage of coal caused by mine strikes. "Unless some can be secured from some source in a few days the electric lights and pumps will have to be shut down temporarily," the *Press* reported.

BUT THE CITY FOUND AN INGENIOUS solution, literally in its own back yard. Manure and wood were substituted for coal. It took a big load of manure and about 10 sticks of cordwood each day. A man was hired at night to fire because the manure had to be fed in at frequent intervals. This fuel and extra labor saved the city at least $2 a day, figuring coal at the old price of $5.25 a ton. The *Press* reported, "It makes very little difference to the city whether the coal strike ever ends or not."

Despite its continuing problems in keeping electricity flowing, the city council was unyielding in its

Brookings was proud of its electric lights on Main Avenue. At this point in the late 1920s, the lights had been moved from the center of the street where they were originally placed.

determination to light the city. The newspaper scoffed at neighboring Watertown, which, it declared, was going back to the "primitive method of lighting its streets with oil lamps." The editor, with false sincerity, proclaimed, "The *Press* is sorry to see our neighbor take any steps backward."

While Brookings displayed pride in its street lights, it was conservative in their use. The lights were shut off at 11 p.m. most nights and completely on "moonlight nights." Businessmen were cautioned about leaving lights burning when they left their offices and warned that the practice endangered their property.

The economy in South Dakota was strained in 1896. Flax was selling at 68 cents; wheat 41 cents; barley, "not worth a price"; and oats, 10 cents. The council, having taken over the steam plant, now considered taking over the Electric Light Co. It argued that the purchase would pay for itself and furnish revenue for maintenance of the waterworks system. The official council proceedings contained this report:

> The waterworks and electric light committee reported that they had formulated a plan for the purchase of the present electric light plant and a new dynamo, etc. On motion it was resolved that on report of the committee the council feels justified in purchasing the present plant and a new dynamo, etc., and that the city engineer be instructed to obtain prices on dynamos, etc., and that as soon as the canvas of the city is completed to report the probable income and expense of running the plant.

A plea in the *Press* from Mayor A.W. Hyde asked Brookings citizens to support the council's effort. It may have been the earliest effort of a Brookings mayor to defend municipal ownership of utilities.

As the council pled its cause, lights in Brookings continued to go on and off. "The city has been in darkness the past week, on account of the dynamo at the electric light plant burning out," the *Press* reported. More than a month later, the dynamo came back from Minneapolis for the second time. "We now have electric lights again after several weeks layoff. They will be duly appreciated in consequence," the newspaper reported.

ELECTRICITY WAS STILL A MIRACLE for Brookings residents. Anyone who understood it and could bring light to homes and streets received great respect. By 1896, city engineer Grant Davis was receiving adulation on the same level bestowed earlier on Gaylord.

In 1897 SDSC announced plans to install an electric light plant, to be used to light buildings and furnish electricity for "mechanical and scientific purposes." This installation opened a cooperative working

1888 — News

Brookings has now been lighted by electricity for nearly three months, and so thorough is the demonstration of the practicability of the enterprise that no money would induce her to give up the system. One reason for this is that she was fortunate in selecting a superior lighting system, a fact for which all credit is due our ingenious fellow townsman, Mr. E.E. Gaylord. In truth, the establishment of the electric lights in this city is wholly due to this gentlemen . . . After carefully studying the principle of THE WATERHOUSE SYSTEM he became thoroughly convinced of the superiority of this system, and after carefully estimating the cost of establishing a plant he called the attention of the city council to the project of lighting the city with electricity. He so thoroughly demonstrated to that body the practicability of his plan that a franchise was granted him without hesitation. He next enlisted the interest of a number of prominent citizens, which, after much hard work, resulted in the forming of a stock company with capital enough to establish a plant with a capacity of twenty-five arc lights.

Press, 12/17/1888

relationship between the city and college that was to continue through the years.

> This plant will be valuable for the instruction in electrical engineering which it will furnish the students of the mechnical course, and this is the principal consideration which influenced the expenditure. Electricity is a great thing, and in the future no education will be complete without an understanding of at least the rudiments of the science. *(Press, 3/18/1897)*

After rejecting a bid on the construction of a new power house, the council readvertised and accepted a bid in September 1898 of $725 for work and material on the walls and the smokestack. In April 1899, when a $5,000 bond for purchasing and improving the electric light plant was put to vote, 101 were in favor and 33 against.

By Aug. 6, 1899, the city was ready to set fees for electric lights, ranging from 65 cents for one lamp up to $3.50 for 10 and a meter rate of not more than 12 1/2 cents per 1000 watts was established for residences. Commercial rates ranged from 65 cents for one lamp up to $5.50 for 10 with a 12 1/2 cent meter rate. It was decided that electric light poles would be shaved smooth, painted black at the bottom and white at the top, and placed in the center of streets to avoid trees. The city clerk was instructed to notify the

Black, gritty smoke from the power plant was an ongoing complaint of Brookings residents. Often it made headlines in the local press. This photo was taken in 1964.

telephone company to remove its poles from Main Street to make way for the electric light poles.

The demand for lights was so great in the early 1900s that the city was hard pressed to keep ahead of requests. To make matters worse, the indispensible city engineer, Davis, cut his hand with a screw driver while putting light fixtures in the City Drug Store and became ill with blood poisoning. His life was "despaired of," but to everyone's relief, he recovered and was able to handle the everyday problems associated with electric lights, water and sewer.

GROWING PAINS WERE NUMEROUS. By June 1902, the city was planning to add a 200-horsepower engine and a 2500-light dynamo to its electric plant. It was "figuring on furnishing electric power and maintaining a current night and day, provided business can be secured to warrant," and engineer Davis said that with the new machinery it would be possible to "run the flour mill, printing offices, etc., in fact to furnish all the power needed in the city." The newspaper editor boasted, "In addition to this plan for increasing the city revenues, heat will be supplied by the exhaust steam from the plant, and the school house and business places heated at figures which will be of mutual benefit. There is no doubt but the city has a great field before it in the lighting, power and heating business, and its experiments will be of great interest to all other places of its size."

With the new dynamo installed and 75 street lights in place in the business part of the city and "at every corner through the principal parts of the residence portion," the newspaper could say, "Brookings is no doubt the best lighted city of its size in the northwest. There is scarcely a spot along the walks on any of the streets where a person could not recognize an acquaintance, and the commercial lights are much brighter."

Before long public sentiment decreed that electric light poles be moved from the middle of the streets in the business section to less obstructive spots.

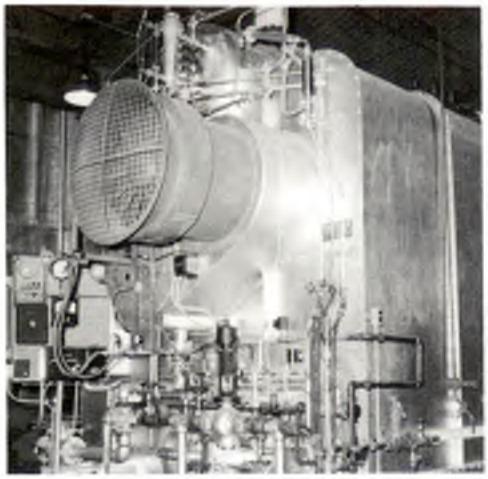
In 1900 it had been announced that the city was putting in a hot water heating plant for the purpose of supplying heat during the winter to the business houses adjacent to the engine house. "Such a scheme would be very convenient for patrons and would bring the city a good income. With the city conducting the electric lights, waterworks, telephone and heating plants of the city we will furnish a good example of socialism," the local editor proclaimed. *(Brookings County Press, 5/3/1900)* By fall of 1903, the city schools were heated with steam provided by the city. This first use of steam generated by the power plant ushered in an 81-year

1901 — News

Last evening the city experienced a short but aggravating period when electric lights came and went and nothing was certain about having light. Search parties went out over the line, and hunted high and low for the missing link, or want of a link. It finally dawned on someone that a family who used one light and lived in the little house opposite J.P. Cheever's had moved out yesterday, and the idea was advanced that the enterprising and saving head of the family had taken his glim with him. It proved to be true, and inside of about three moments the break had been repaired and the city was once more enjoying its customary blaze of glory. Persons should never move electric light fixtures or monkey with the buzz saw. It's somewhat annoying and mighty dangerous.

Press, 4/11/01

The power plant as it appeared in the 1950s and until it was razed in 1980.



A package boiler used at the power plant. It was operated either with fuel oil or natural gas. The big boiler in the background could use coal, natural gas or fuel oil.

period when the city heated many downtown businesses, the schools and city offices.

In August of 1903 the carnival was coming to town. It was a big event in Brookings, and the demand on electric power was of concern to engineer Davis. About 775 incandescent lights would be needed to run the different shows in addition to electric power for some of the amusements.

Davis had prepared well for the event, but he was not destined to enjoy its success. He died unexpectedly while on duty at the plant.

Fred J. Swanson, city engineer at Hawarden, Iowa, was hired to replace Davis. He supervised five men on the payroll at the power plant, and inaugurated an all-night schedule for electric lights between sunset and sunrise. The schedule was also expanded to include the availability of lights on dark, cloudy days. A financial report indicated the electric light plant was averaging a profit of $125 per month. Records during Swanson's tenure yield little information. But by 1907 a totally unqualified replacement, J.G. Wood, had been hired. "Wood made a bad impression from the start on everyone, and inquiry showed the astonishing fact that two weeks before he was hired by the city he had been in Brookings under arrest, charged with obtaining $40 under false pretense from the First National Bank of Elkton." Wood's past history caught up with him and he resigned.

J.R. Thompson, who had been with the engineering department in Mankato, Minnesota, and was highly recommended by his former employer, was appointed city engineer. He served until 1909.

Shortly after Thompson took over, electricity was put on an all-day run. It took a while to accomplish this, and in the interval another first was recorded: the first ice cream produced by electricity. C.E. "Charley" Palmer installed an electric motor for an ice cream freezer, and current was furnished at "such times as required by Mr. Palmer."

NOT ALL PROBLEMS WERE LAID TO REST as lighting became more trouble free.

An adequate supply of coal was always a problem for the power plant superintendent. Huge piles were usually stacked outside the plant. The cost and availability of coal, and smoke and soot caused by burning coal, were often commented on in the newspaper.

The first illuminated business signs in Brookings appeared in 1911 on the buildings of C.D. Kendall and E.H. Beatty. They could be read "the length of Main Street" and "added much to the appearance of these businesses." Improved street lights appeared at

intervals and in 1913 several tungsten lights were hung. They were arranged in clusters, surmounted by enamelled reflectors that diffused the light.

By the end of 1914, the heating plant took in $5,711; water $3,600; electric lights $15,965; and telephone $13,000. Expenses were $16,000 for the heating plant and electric lights; $5,000 for waterworks; and $7,140 for telephone. Those challenging the figures said they did not take into consideration taxes that would have been collected had the services been privately owned.

In 1915 it became apparent that the power plant could not keep up with demand. Whether to enlarge or move was answered in a special election. The vote was overwhelmingly in favor of leaving the plant on the old site. Improvements were undertaken at once. Then another problem surfaced: a crack in the smoke stack. The crack was filled, and the chimney was girdled with steel bands.

As municipal services expanded in Brookings, views differed on how the city should be managed. A comparison of electric rates with those in Madison showed Brookings 50 percent higher. Some believed private ownership was the answer to what they perceived as poor management. The proposition before voters, however, was whether to switch from the alderman to the commission form of government. At the time of the vote in 1920, Brookings population was about 4,000. Although three wards turned down the proposition, the commission form was adopted, 456 to 396.

Electricity had become essential to Brookings, but some customers had trouble paying for it. About 100 light and power customers received an unpleasant surprise in July 1920. The city announced that service would be cut off for those not paying their bills by the 10th.

BY THE EARLY 1920s the light and power plant was overloaded and inadequate for the city's needs. Costs were high because the equipment burned prepared sizes of coal at high prices but low efficiency. Consulting engineer L.E. Pollard gave the commission three possible solutions: sell the plant to private ownership; build a new smoke stack and remodel and fix up the building to accommodate new equipment; or build a plant on a new site. Pollard said the city didn't have much to sell and "juice" in Brookings was not costing any more than it was costing in hundreds of northwest towns under private ownership, and in many cases less.

By 1921 criticism had grown to the point that the commission established the practice of hearing light, heat and power complaints every Monday night. The *Press* called it "a sort of little sociable kickers' powwow. If you don't like the way things are going, or

1902 — News

The new electric light plant was started up Saturday forenoon and found to be in good trim. The switch board, which comprises the volt meter, etc., for regulating the current, had not arrived, but it was decided to resume the regular runs Saturday night without it. As a result too much current was turned on and a fuse at the power house burned out before half an hour's run. In the course of an hour or so this damage was repaired and the lights again started, but the experience made the engineer cautious and to be on the safe side a weak current has been supplied, which is a lot better than kerosene lamps . . . The city is now supplied by four circuits, and unless something goes wrong at the power house all the lights will not be affected by an accident to one of the wires outside. Sunday night a fuse burned out at the Presbyterian church corner, and the lights up in that neighborhood were out for half an hour but the rest of the town knew nothing about it. At the old plant such an accident would have put the entire city in darkness.

Press, 1/2/02

Power plant crew in 1950s. From left, Marvin Jensen, Jack Horner, Walter Johnson, John Pickering.

Power plant crew in 1950s. Back row, from left, Dale Peterson, Harry Simonson, DeWayne Liebsch, Elmer Thon. Front row, Art Swenson, Dewayne Heath, Norman Amundson.

Line crew in 1950s. From left, Henry Shirkey, Mervin Anderson, Jerald Albright, Harley McCord Jr., Wayne Ward.

what they are charging you, march right up Monday evenings and tell 'em about it. We understand they are getting used to complaints and are conducting these hearings without the aid of a 'bouncer'."

The Commercial Club sprang into action, appointing a committee of Geo. P. Sexauer, F.M. Kremer, Halvor Solberg, J.F. Randall and Frank Sherwin, who recommended a $60,000 bond issue to improve the plant. A full-page ad in the *Press* on April 21, 1921, sponsored by the commissioners, Commercial Club, and the Board of Education—whose interest was in the steam heat provided by the plant—urged citizens to approve the bonds. They did, 370 to 60.

Boilers equipped with automatic stokers, a 700-horsepower engine, and a 500 K.V.A. generator were purchased. The $60,000 bond fell short of actual costs.

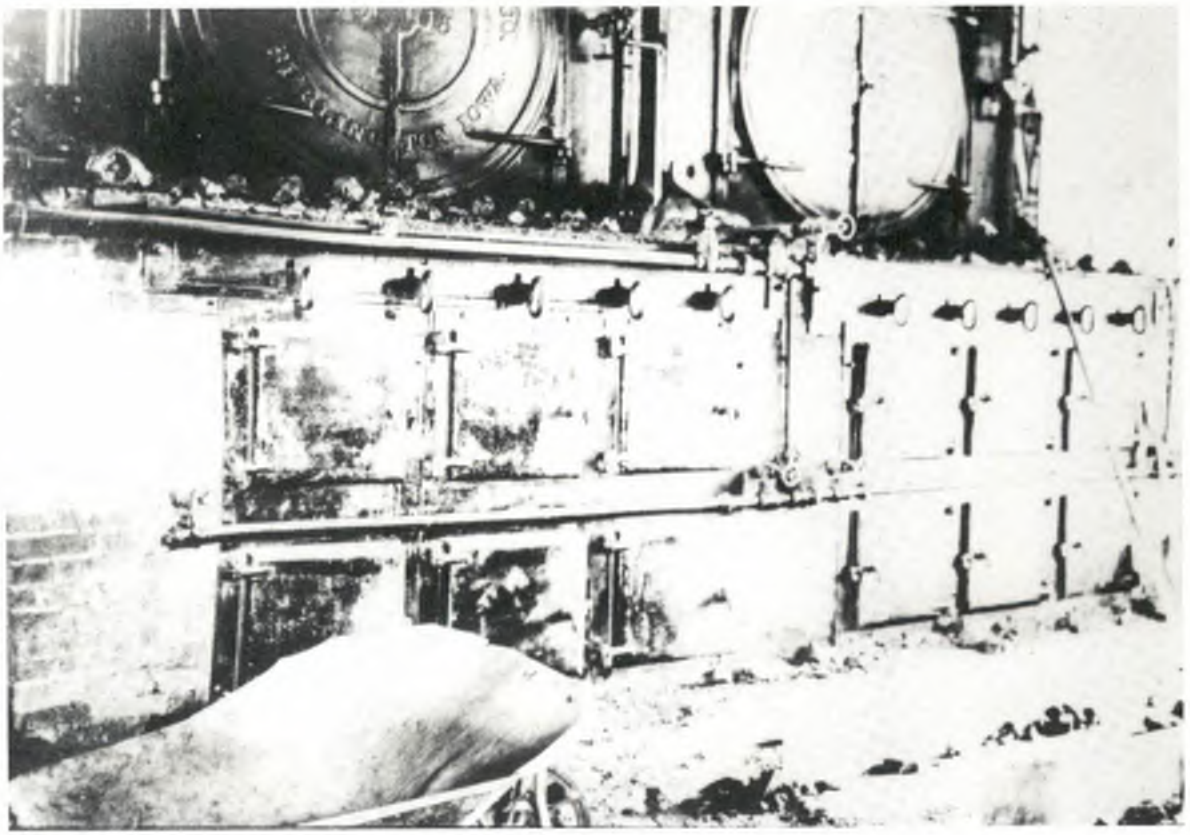
> The new $70,000 equipment is now completely installed and besides furnishing juice for the city of Brookings, Volga is also being supplied. And since the new equipment has been in use, a lower grade of coal, saving $2 per ton, is being used, and this with a twenty percent increase of output. All of which shows that the commission form of city government is "making good" in giving the people efficiency in the business management of their affairs. *(Press, 3/9/22)*

The electric light plant had a net profit of $28,285.58 for 1921. And despite the great potential for accidents, the plant's safety record was good.

A LARGER DAYTIME ELECTRIC LOAD was suggested by Mayor T.I. Flittie as he prepared to leave office. The only way to achieve it, he proposed, was to encourage electric ranges in homes and give a low cooking rate. He assured the public that with the improvements made during his five years as mayor, the electric light plant had operated "just as economically under public ownership as it would have under private ownership."

The city's first consulting engineer was hired in March 1925. While the utilities were being run at profit, the commissioners hoped for even greater efficiency. Verne T. Kennedy, a state senator from Lincoln County, was employed on an "efficiency" basis. The contract set his salary at 40 percent of what he saved the city in a year. Net earnings had been $19,000 in 1924, and the city figured that Kennedy could earn $2,400 by increasing profits to $25,000. Profits did rise, but whether Kennedy deserved or got the credit is not a matter of record.

Mayor Flittie's desire to promote the use of electric ranges was given a boost in 1926 with a demonstration in which "an entire dinner was prepared on the range."



Power plant boilers in the 1920s. Coal was hand fed into the fireboxes (note wheelbarrow lower-left corner). Drums above were half-filled with water, leaving room for producing steam to drive the generators. Later stokers were installed to feed the coal and relieve crews of some of the back-breaking manual labor.

In 1926 the net income from municipally owned plants was $45,387.97 and by 1927 the city showed a cash balance of $13,060 despite losing $6,533 in the defunct Farmers National Bank. The utiliities continued to prosper in Brookings and the local newspaper editorialized at intervals on the wisdom of city ownership.

By the end of 1927, a larger power engine more than doubled the capacity of the plant. It would soon be working to capacity as electric stoves and refrigerators became permanent items in most households.

The stock market crashed in October 1929 and President Herbert Hoover urged the nation's utility industries to accelerate expansion programs to put people to work. While Brookings failed to heed the President's plea, it did continue to meet its customers' needs.

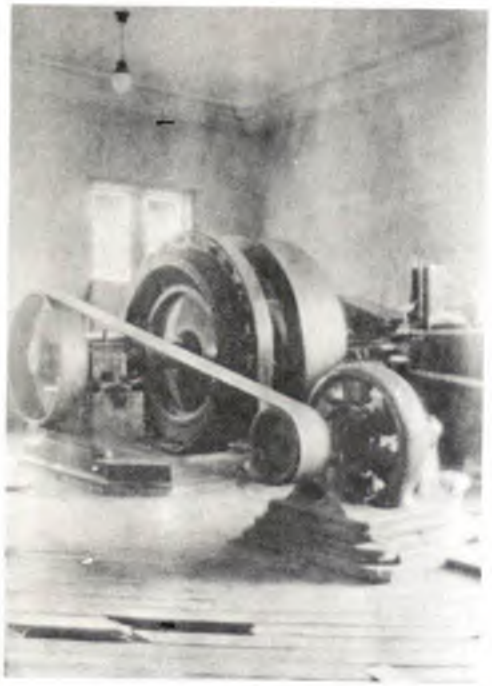
In 1930, J.A. Plamann of Springfield, Minn., became manager, succeeding Earl Hyde who had held the position for almost 10 years. Hyde had been accused of embezzlement, but brought to trial in April 1931, he was found not guilty.

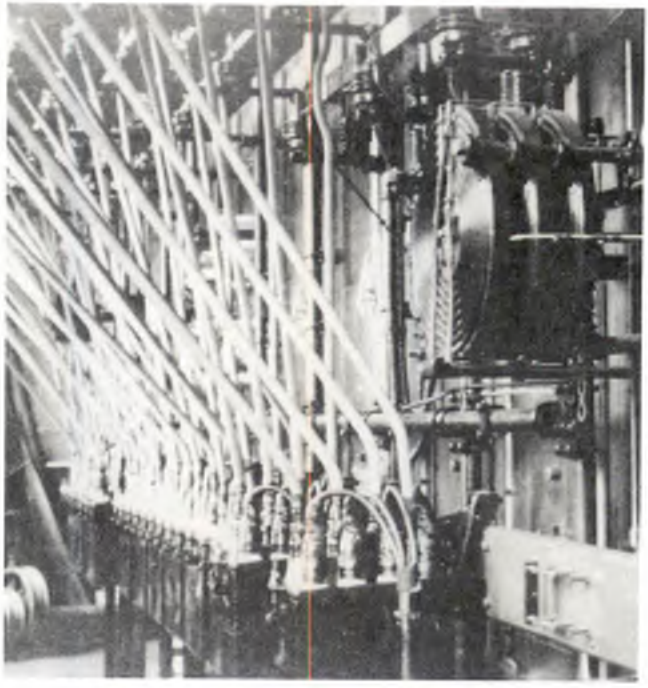
By 1931 lower rates had been established for users of more than 100 kilowatts of power monthly. By 1932 rising demands on electricity necessitated the purchase of a 1,000-kilowatt turbine to increase capacity. Still,

breakdowns plagued the power plant and it was necessary to ask people to conserve on electric power and lights as repairs were made.

Drought in 1931 and 1932 caused a sharp decline in cattle production, a blow to an agricultural economy. The state itself was in severe financial trouble, and to add to the misery, 1934 was the year of "dust blizzards."

The depression was felt by Brookings utilities, but the city weathered those years with less trauma than that of many private businesses. In June 1933 the city paid off the last of its bonded indebebtness and said it was "entirely free of any outstanding obligations." In lieu of staff or salary reductions, the city tightened its belt, curtailing expenditures.





Generator used in the power plant in the early 1920s. Right, early switchboard before switches were enclosed in panels.

WORLD WAR II IMPOSED RESTRAINTS on utilities, but its greatest impact occurred in the latter years of the conflict. By 1945 a nationwide order from the U.S. War Production Board thrust Brookings into a "brown out." The order was mandated to "save scarce fuels used in generating electricity as a part of the overall wartime conservation program of the U.S. government." It prohibited outdoor advertising; outdoor display lighting except where absolutely necesssary; outdoor decorative and ornamental lighting; show window lighting; marquee lighting in excess of 60 watts; and street lighting in excess of the amount determined by local public authority to be necessary for public safety. Violators were to be reported. To meet the city's conservation efforts, coal shipments were cut 30 percent.

Despite the hazards intrinsic in developing a power and light system to serve Brookings, the city continued with few incidents of injuries. The first recorded death directly related to utility service occurred in 1940 when a telephone-light pole snapped, pinning Ansel Engel, a city employee, to the cement below. He was wearing a safety belt, which prevented him from jumping free.

WISE HANDLING OF FINANCES evoked acclaim in the 1940s for the city commission form of government. The *Press*, always a cheerleader for the city, lavishly praised commissioners.

> When the present city commission form of government was installed, in 1920, the indebtedness of the City of Brookings was approximately $275,000 and much of the plants and equipment were in poor shape.
>
> The fact that the City of Brookings has been able to pay off this $275,000 indebtedness, renew the worn out equipment, etc., and accumulate liquid assets of $309,041.34 is not only a ringing endorsement of the commission form of city government, but a splendid tribute to the honesty and ability of the different men who have served so faithfully on the board of three city commissions—one the mayor, one in charge of the light and power plant, and one in charge of telephone, streets, etc.
>
> It has been officially reported that the City of Brookings is one of only two cities of South Dakota, FREE of public debt. The other is Lead.
>
> The present board of city commissioners is composed of Homer Dwiggins, mayor, in charge of public buildings, health department, police, finance and revenues; George E. Bishman, in charge of water works, sewers, light and power, and related matters, and Oscar Wetterberg, in charge of telephone plant, streets, sidewalks, alleys, parks and public grounds, and related matters. *(Press, 1/25/45)*

By the end of 1944, Brookings had accumulated $225,000, invested in U.S. war bonds, and more than $80,000 in cash. It also had a five-year plan for utility improvements, including $140,000 to replace and repair light and power equipment and buy new equipment. Of greater immediate interest was the purchase of a cinder trap for the power plant. Public displeasure was mounting as cinders spread over business and residence sections within several blocks of the plant.

By 1945 the city was starting to use some of its accumulated funds. New boiler equipment totaling $83,650 was ordered, and a new coal handling unit installed to simplify conveying coal to the stokers. By 1946 construction of a $195,000 brick and tile addition, 28x67, was underway to house new power and light equipment.

A nationwide coal strike in 1946 caused some worry for Brookings, but with a more than 30-day coal supply on hand, it was better off than many large cities

Remembering

We didn't spend much money on equipment before 1972. We had a pickup we bought from Army Surplus. The sides were all rusted out. The Highway Patrol caught our driver and made us take it off the road because it wasn't safe to drive.

And we had an old bucket truck that the controls would stick on. I remember one time I was in the bucket when it kept going up. I hit a street light and it just kept going and going and going. I had to yell to the guy on the ground to shut the truck off because I was crammed between the bucket and the street light.

We didn't have a trailer for our trencher; so I hauled it in the back of a pickup. The blade wouldn't fit in the pickup, so I had to take the blade off in the morning, drive the trencher in, put the blade beside the pickup, and then go to the job. Then I'd have to find a pile of dirt because there was no ramp to unload the trencher. I'd back up to the dirt, unload the trencher, then put the blade back on. If I needed wire I had to run back to the building to get it. Only one of us went out on a job like that.

—Andy Jensen

1945

Wartime conservation mandated . . .

To Electric Consumers . . .

The War Production Board has requested us to notify you of the issuance of Utilities Order U-9 prohibiting certain uses of electricity. You will note that the purpose of the order is to save scarce fuels used in the generation of electricity as a part of the over-all wartime fuel conservation program of the United States government.

The uses of electricity which are prohibited under the order are:

(1) Outdoor advertising and outdoor promotional lighting.

(2) Outdoor display lighting except where necessary for the conduct of the business of outdoor establishments.

(3) Outdoor decorative and outdoor ornamental lighting.

(4) Show window lighting except where necessary for interior illumination.

(5) Marquee lighting in excess of 60 watts for each marquee.

(6) White way street lighting in excess of the amount determined by local public authority to be necessary for public safety.

You will wish to comply fully with the order and we urge that you undertake immediately whatever arrangements are necessary to be sure that you do not violate the order when the mandatory provisions become effective on February 1, 1945.

Any consumer who violates the Order is subject to penalties prescribed by Federal Law which may include the discontinuancy of electric service at the direction of the War Production Board. Under terms of the order we must report to the War Production Board the name and location of any consumer who refuses to discontinue a violation of the order.

We have been requested by the War Production Board to urge your immediate voluntary compliance in eliminating your uses of electricity which are prohibited effective February 1, 1945. The Board has also requested that we urge maximum conservation in your other uses of electricity.

City of Brookings

There were days like that!

Auger Breaks, Train Late, Rotor Breaks Down Too; Power Off for Hour

A series of parts failures plus the heavy Saturday night power load culminated in an hour-long power failure Saturday evening, when all power except that on the street light and hospital circuits was cut off, plant manager Thomas W. Newell explained today.

The trouble began innocently enough on Friday, when the coal auger broke which takes the coal from the coal silo and starts it on its way to the fire box of the new furnace. This meant that the new boiler would be out of commission until the replacement auger could be installed.

The four old boilers were sufficient to carry the heavy load in the meantime, but a new auger was ordered by telephone from Minneapolis. Its shipment from the twin city was delayed but it was finally put on the west-bound train scheduled to arrive in Brookings at 5:10 p. m.

This train arrived nearly two hours late Saturday evening, reaching Brookings at 7:00 p. m., just as the big evening load was beginning to pile up at the power plant.

A crew of men was put to work installing the new auger immediately, and were at work when one of the rotors on the stokers firing the four old boilers broke down.

The rotor is the device by which the pulverized coal is thrown into the firebox. It works on the same principle as the rotary broadcasters sometimes used to sow small grain. Just as with the grain, the principle of centrifugal force is used to scatter the coal over a wide area.

When the rotor broke, the fire under that boiler immediately began to go down and the full load of the system was thrown on the other three boilers, just as the city's evening power demand was at its height.

To get enough heat to produce an equal amount of steam with three boilers as was formerly with four, more coal had to be fed to the remaining three fireboxes.

In the process of trying to keep up enough steam to provide the necessary steam head for the power load, it became impossible to care for the fire beds properly, and they began to burn poorly. By this time the crew fixing the auger had been shifted over to repairing the rotor.

The rotor could not be fixed, however, before the heavy firing of the other three boilers had reduced the efficiency of combustion, and the steam pressure began to drop.

It was at this time that all the circuits except the two previously mentioned were cut off. The street lights were left on to discourage pilfering in the crowded stores and because it was the most equitable way to distribute the available power.

While the current was off, the overloaded fire beds were dumped, new, efficiently burning beds built up, and the rotor repaired. Shortly thereafter installation of the auger on the new boiler was completed, and it became possible to bring the new boiler back into the "firing line", assuring the power supply, and the lights went back on.

April 28, 1948

Mrs. Housewife:

We Must Have Your Cooperation If You Are to Have

ELECTRICAL CURRENT

For Your Cooking

CITY OF BROOKINGS

Municipal Electric System

1930 – News

One of South Dakota's down state newspapers says that "municipal ownership of electric light plants is the bunk," or words to that effect. This is a rather careless and sweeping statement . . . The city of Brookings owns its own electric light plant, its own waterworks system, its own heating system, which heats the entire business section largely with waste steam at practically the cost of fuel alone (to the business man), its own electric power plant, its own city telephone plant and city telephone system, and the municipality is in a prosperous condition. The whole outfit is worth probably around a half million dollars. Possibly, we might sell out and for a period of years obtain light and power at lower rates—at the cost of sacrificing several other things. But none of all these publicly owned public utilities are costing the taxpayers of the city a cent. Only the consumers are paying the bill—and in proportion to their use of the utilities.

Press 10/23/30

facing "brownouts." At SDSC, however, where coal suppplies were skimpy, a conservation drive got underway to reduce light consumption by half.

War shortages had caused delay in the delivery of new equipment, and customers were occasionally encouraged to "use light and power as little as possible." In 1947 voters were asked to endorse a plan to pledge utilities earnings to cover $250,000 in revenue bonds. The issue would pay for a turbine generator and condenser, a cooling tower, interline connection with another power company for emergency protection, and ash conveyer equipment.

The mayor and commissioners sent a message to the people of Brookings by way of the *Press.*

> Last week's newspapers carried a statistical statement. If you will turn to it, you will see that we have three generators, a 750 KW engine bought the 1927, a 1000 KW turbine bought in 1932 and a 1250 KW turbine bought in 1937, and our present peak is shown as 2000 KW. This means that if the 1250 KW turbine goes out, the other two cannot pull the load. (2000 minus 1000 plus 750.) This is the present problem. We must have additional generating equipment.
>
> . . . There is no escaping the fact that our plant is old. During the war years, little could be done, but the load continued to grow. Cost of labor and supplies have increased greatly but the price charged for electricity remains the same. This means that we must increase the plant's efficiency and take advantage of increased volume, or the plant will lose money. With a 3000 KW generator we shall have extra capacity, but a favorable contract has been arranged for with the local rural electrification association so that excess electricity can be sold to them, and this should continue for a few years until the demand of our own people will consume the entire capacity of the new generator.
>
> It has been suggested that the city has a considerable amount of cash and bonds on hand, but much of this will be used in paying for the boiler and equipment already purchased but not installed. Our newest present boiler was bought in 1928. If we should rob every fund (which we cannot do) there would not be sufficient funds to pay for the new generator and other incidental equipment.
>
> Finally, we wish to emphasize the fact that the proposed bonds are what are generally known as "revenue" bonds. This means that they are not a tax obligation of the city and whoever buys the bonds can look only to the income from the plant for repayment. The plant will have the burden of making the money with which to retire the bonds. Taxes cannot be resorted to. *(Press, 2/13/47)*

The turnout was small, and the bond issue sailed through in February 1947, 310 to 12.

EVER-INCREASING USE OF ELECTRICITY exacerbated the utility's problems. Demands increased by 50 percent in 1946-47. In 1947 the plant superintendent urged that all cooking be done before 5:30 p.m., and

an ad in the *Press* appealed to power users to curtail the use of electricity during the day, especially the peak hours of 11 a.m. to 12:30 p.m. and 5 to 6:30 p.m. City commissioners offered detailed suggestions:

> 1. It would ease the power load if housewives using electric stoves would do as much cooking as possible during the mid-morning and afternoon hours when the load is not as great.
> 2. Since electric water heaters are automatically shut off during the peak hours it is suggested that care be taken in using other motors during these hours. If the lights should suddenly go dim motors should be shut off immediately as they might burn out.
> 3. Although cooperation from the business district has been good it has been suggested that display lights, signs, etc. be shut off during the early hours of the evening. Many heavy users of power such as elevators and feed mills have curtailed their use during emergencies.
>
> These requests might seem unreasonable, but the city plant can only furnish so much power. If it is overloaded, the plant is likely to break down and the transformers in your section might burn out. Since both are very hard to replace or repair the city would be without electrical power during the winter months when it is needed most to operate the stokers and oil burners in the homes. *(Press, 11/13/47)*

By the end of January 1948, the new boiler had arrived and the community's power demands were under control. The city still awaited a badly needed turbine, and light-conserving efforts stayed in force.

The city's problems resulted primarily from long delays in receiving equipment from manufacturers rather than lack of assets or working cash. Values set on city utilities at that time had reached $577,166.21 for the electric plant; $193,433.68 for waterworks; and $218,809.65 for telephone. The yearly payroll for city employees by 1948 had reached $216,000. The cinder problem had been addressed to some extent in 1945, but the increased use of coal to generate electricity made the resulting cinders and fly-ash a greater nuisance in 1948. Businessmen complained, and photos showing smoke billowing out of the plant appeared frequently in the *Brookings Register*.

The *Register* considered any problem at the power plant newsworthy. Accounts of equipment breakdowns were reported in detail along with predictions of when things would return to normal. Without fail, the newspaper gave readers, in detail, the continuing story of delays in shipments and problems of installation.

In June 1948 Thomas W. Newell, then superintendent of the city's electric, predicted that by 1953, the Missouri River development project would produce sufficient power to supply Brookings' needs, thus relegating the city plant to a standby role. He warned his listeners that the improvements underway would put the plant

Remembering

The power plant also supplied steam heat and process steam for the Bibby Kallemeyn Dairy and most of the businesses on main and side streets. To do this a system of tunnels (concrete and brick) led from the plant to most of the downtown area and to the school and churches, Jon Krein, DeWayne Liebsch and others spent a good deal of time in those tunnels working and patching up that old leaking system. No one on the street above knew they were down there and that in the summer it was as hot as 130 degrees (the steam was on for the dairy).

One time Jon and DeWayne entered the tunnel across from the telephone office and had worked their way down to Cole's. It started to rain really hard and the tunnel began to flood knee deep, waist deep, and still coming. They ran for the manhole where they had entered, but by the time they got there the tunnel was nearly full and water was going in the open manhole like the drain on a bathtub. Jon said when he popped up through all that water there was a lady sitting in a car about five feet away and he would have given a thousand bucks to have a picture of the expression on her face.

—David Felton

Remembering

Coal was hauled to the plant on open gondolas from C&NW and was unloaded by the Front Street substation next to what is now Prussman Trucking. It was elevated into an old Army 2 1/2 ton truck and hauled to the plant. Then it was dumped into a pit and elevated into the feed bunker or silo.

One time in 25-below weather, six 60-ton coal cars came in frozen just like big loaves of bread. Not one chunk fell out when the bottom doors were opened. It took the line department's digger trucks, the water department people and two men with picks and sledge hammers to get the coal out of the cars. Then it had to be broken up with hammers so it would go through the grates at the dumping pit. All of this had to be done in a hurry because utility was paying a demurrage on the extra time cars sat on the tracks loaded.

–David Felton

"in excellent condition, except that our old boilers already are beyond the average lifetime of such equipment." Newell said the city did not have the power to supply the needs of REA; that Otter Tail Power Co. had indicated verbally it could supply standby service should disaster strike the Brookings plant. The superintendent did not mention that the city commission planned to increase electric rates, but a second increase was in effect by Aug. 1, 1948. The 15 percent increase was necessary, Mayor Homer Dwiggins said, to get the plant on the profit side of the ledger. The mayor cited increases in the price of coal, from $5.90 per ton in 1941 to $9.40 per ton in 1948; huge expenditures for new equipment; and higher maintenance costs. He pointed out, however, that rates would still be comparable to those of Madison, Watertown and Huron.

Until a few weeks after Christmas of 1948, when the new turbine was in working condition, Brookings patrons were harangued about using too much electricity. "Cook with one less burner on your electric range than you have been using. Change your dinner hour. Cook earlier or later. Do not burn unnecessary lights from 5:15 to 6:15 p.m," the city pleaded.

Decorative Christmas lights, however, still adorned the streets, and the Chamber of Commerce publicly thanked electric system employees for putting up Christmas decorations, a tradition started early in utility history and continued through the years.

Charles E. Poole and E.H. Sexauer, representing Rotary Club, presented a resolution to the commission demanding immediate action to abate the smoke, soot and cinders emanating from the power plant. Poole, now established as chief crusader against soot, said, "This is a municipally operated power plant, owned and operated by the people and in their interests. They are demanding some relief. And they intend to get it. The time for action has come. And we intend to get action." Mayor Dwiggins replied:

> The city commission, as Charley Poole knows, has been trying to solve this problem [soot and cinders] for many years. We were up against it during the past two or three years when we had to take any kind of coal we could get and when we had to force the old boilers in the plant to their capacity.
>
> We called for bids in an attempt to get some device which would eliminate this nuisance. The bidding company wanted $15,000 and would not guarantee any elimination. We now are in touch with a New York firm in an attempt to learn just what can be done and how much it will cost.
>
> If the commission went ahead and accepted a bid with any company which would not guarantee satisfaction and then failed, Charley would be the first griper in my office.

> Charley likes that ink in the newspaper. He just loves big bold faced type. Sure there is a grievance in this situation but the nuisance has been abated materially since the new turbine was placed in operation.
>
> . . . I don't like soot and cinders any more than Charley, but I do know that the nuisance is not nearly so bad as it was. And if folks like Poole want to take a fling at this job they are welcome and it would cause no hard feelings. *(Register, 1/5/49)*

In March 1949, the "soot and cinder situation crashed into the limelight again," the *Register* reported. Dwiggins received a letter from a research corporation saying that a $90,000 installation might solve Brookings' problems. No action was taken, however, and the problem dragged on for another three years.

In April when the city coal bid was approved, the amount, including unloading charge, was approximately $200,000 for the year.

By February 1950, city officials were especially thankful for mild weather but lived in fear of a "cold snap that would increase fuel consumption at least 80 percent." Again Brookings had been stockpiling coal because of a growing shortage caused by a nationwide coal strike. The city had a three-week supply on hand if the weather continued fair, the newpaper reported. Dwiggins felt compelled to explain that the procurement of coal in February had cost the city at least $3,000 over the regular price. "We have been searching everywhere for coal in recent weeks and in order to guarantee an adequate supply we have been forced to take what coal we could find where we could find it," he said. "However, we are relieved of any danger of immediate power shutdown and under present conditions that is of vital concern."

ENERGY SOURCES, MODERNIZATION, expansion—and how to meet costs—continued to plague commissioners. (In 1949, the added responsibilities placed on the three commissioners had prompted a move to a five-man commission.) The mayor promised that oil was available if coal ran out. It was inevitable, however, that as costs rose so would rates—a predicted 10 percent for steam sold for heating. The 10 percent discount on electricity was cancelled. By March 1950 a sliding rate that corresponded with increases and decreases in coal costs was planned.

Hard pressed to keep up with growing demands for electricity, William Gamble, the commissioner in charge of the electric plant, posed the following questions: Should Brookings expand its present plant? What about additional real estate on which to expand? What about the increasing coal-hauling problem? Should a new unit of the plant—eventually to become the major producing center—be built elsewhere? Should an

Remembering

William Gamble: The condition of the electric plant was somewhat deplorable in 1950. A large boiler which had been added to the plant to provide extra steam capacity had not been shut down for maintenance purposes for more than a year and was badly deteriorated.

Steam hissed from numerous leaks and sulphur fumes pervaded the air. Automatic recorders and controls on the large boiler had never been connected, and the boiler was operated "by ear." A firehose was used to carry water from a tap on one side of the plant to the boilers along a route immediately adjacent to the generators. (From an interview of William Gamble in 1975)

Power plant operators in the 1950s. From left, Walter Hayes, Jonathon Krein and Lloyd Haase.

attempt be made to get a firm power commitment from Otter Tail Power Co., whose lines came as close as Aurora or from Northern State Power Co., whose lines came as close as Lone Tree? Northern planned an REA line in the East River area, which might give Brookings all the extra power needed. And what about Missouri River power, when available?

Gamble announced that a nationally known consulting engineering firm, Black & Veatch of Kansas City, would address these questions. In January 1951, the consulting firm made its report. It was not optimistic, opening with this statement: "The city of Brookings is in need of additional electric supply facilities to meet present and future electric load requirements. The present available generating capacity is inadequate to reliably handle present peak loads and rationing of power may be required if either the largest turbine or boiler is out of service."

Among possible solutions: a new plant at a cost of some $1.3 million on a suitable site on railroad right-of-way, retaining the present plant as a standby; diesel equipment for standby and emergency service, estimated to cost approximately $371,000; or purchase of energy from one of the private systems in the area. The consulting firm projected that electric consumption would double by 1960 and recognized the necessity for the city to continue to maintain the heating system, which still supplied schools, several churches and all the business section of the city.

The only immediate action by the commission as a result of the report was to start discussions with Northern States Power Co., Northwestern Public Service Co. and Otter Tail Power Co. about auxiliary electricity. Otter Tail earlier had not wanted to supply current unless it could retail directly to consumers. Commissioners solved their dilemma by contracting with Otter Tail until Missouri River power became available.

By April 1951 an agreement was reached to hook up to Otter Tail for emergency power. Otter Tail was to build four miles of transmission lines south toward Brookings, from a point eight miles north of the city, and the city was to build four miles to a meeting point. The line to be built would be used later to hook onto the Bureau of Reclamation grid when it was energized with Missouri River power. Otter Tail was to provide up to 1,000 kilowatts for the city at a cost of slightly under 2 cents per kilowatt. It had been estimated in 1950 that the cost to the city to produce its own power was 2.6 cents.

At the time this arrangement with Otter Tail was announced, the commission also agreed to present a $300,000 revenue bond issue to the public to increase plant efficiency and reduce costs per kilowatt. Activities

to be covered were Brookings' share of cost for the new line to connect with Otter Tail; changeover of the electric plan from two- to three-phase (Brookings had always operated on the two-phase system, but Otter Tail was three-phase and Bureau of Reclamation power would require three-phase); replacement of stoker grates; repair of furnaces and pump controls; installation of water softener for boilers; installation of coal handling and weighing equipment; repair of cooling towers; installation of fly-ash equipment for cinder control on the large boiler; installation of new street lighting cable to replace existing cable; and retirement of $25,000 in warrants issued in the fall of 1949 to pay the balance on the city's boiler-generator installation.

As the commission prepared for the bond vote and the 60 percent approval needed for authorization, Gamble pointed out that capacity of the municipal plant was 4,250 kilowatts, but peak demand was just under 3,000 kilowatts and the largest generator at the plant could not produce that much. When Otter Tail power became available, necessary repairs and improvements could be made without jeopardizing the supply of power. Gamble noted that peak loads had been doubling about every five years and the city would need all the equipment available, operating at increased efficiency, even after Missouri power was available. He also noted that voltage regulation would improve with the three-phase system and that customers would have less trouble with lights that dimmed and radio reception that faded.

The Brookings League of Women Voters took the initiative in informing voters about the bond issue. A public meeting, however, did not draw the large number expected. Apparently the public did not need much persuasion. In July 1951, 80 percent of voters favored the revenue bonds.

The bonds were approved about a week before the city signed a contract with the Bureau of Reclamation in Huron for Missouri River power, when it was available. Brookings was the first South Dakota city to contract for Missouri River power.

Meanwhile, breakdowns at the power plant curbed electricity use. City residents, however, continued to exhibit patience. Superintendent Newell frequently thanked the people of Brookings for their cooperation.

CHANGES LEADING TO greater efficiency continued to occur. Patrons were given the opportunity to hook all electrical appliances and lights to one meter. Previously, two meters had been required, one for stoves, the other for lights. The single meter was a saving for customers and the city.

Line crew in the 1950s. From left, Bob Erks, Vern Carter, Roger Nagel and Hank Shirkey.

Power plant crew in 1950s. Dick (R.) Jon Krein, Harry Simonson, Rolly Harrington.

Remembering

After I'd worked three years pumping water at nights, I decided if that's the way it was going to be the rest of my life, maybe I'd better try to change. I talked with Earl Hyde, who was superintendent, and he said, "You can go out and shovel back the coal in the coal bin." He said there was an old fellow hauling coal with a team and he'd throw it in the window and I'd have to shovel it back. Hyde worked me pretty hard, but in the afternoon he said, "Well, Lawrence, I just wanted to see if you could do it; we'll take it easier tomorrow." So he had a little sympathy for me. I was just a kid.

—Lawrence Sorenson

As the city waited for Otter Tail power to arrive, it continued to be plagued by boiler problems. Pleading with "housewives" to iron, bake and dry clothes at times when there was least demand on facilities, the city somehow managed without serious outages. Utility managers publicly breathed a sigh of relief when the boiler was returned to operation before "Thanksgiving turkeys were to be roasted" in 1951.

People were ready by May '52 for the inconveniences caused by erection of transmission lines to tie in with Otter Tail. Power cutoffs were scheduled between 4 and 8 a.m. and arranged so that no section of the town was without power for more than one hour at a time. On July 31, 1952, the first electric energy from Otter Tail flowed into the city. J.O. Storry, an SDSC engineer who had engineered the changeover from two-phase to three-phase and was coordinator for the city on changeover work, recalls the day utilities employee Bill Streeter looked him up to announce that "two phase is no more." As soon as the changeover was made, the plant began to shut down boilers for boiler repairs; to reconnect the large turbine for three-phase energy; and to rewind the smaller units to three-phase.

Poole's day finally arrived in August 1952. He was able to witness the installation of a fly-ash precipitator to eliminate flying cinders. He had campaigned for the better part of five years to get rid of the soot and ash issuing from the smokestacks. The *Register* reported his reaction: "At first it was a terrible menace, then a joke and finally a hobby with me," Poole said.

Gamble took the opportunity for a mild pat on the back for the commissioners. "Although it will be some time before all of the various projects we have started are completed, still we are to a point where the costs of completing the projects can be quite closely estimated and it appears that there will be money available for modernizing our Main Avenue lighting. We have been studying this for some time and hope to have this project started soon."

BROOKINGS STREET LIGHTING, in place since 1920, was so obsolete that it was costing the city dearly to maintain it. The first step toward modernizing started with sections on Sixth Street from Main Street to Medary Avenue and on Medary from Sixth to the SDSC Campanile. The second phase was replacing underground wiring for fixtures in the business district. The third was extending improvement east and west to city limits on Sixth and Medary. Eventually, a new "white way" lighting system was planned for the business district. In the winter of 1954, a fluorescent light fixture was mounted on a pole on Main Street as a sample

of what citizens could expect once street lights were modernized. The deadline goal was to be the 75th anniversary of the city in August 1954.

Despite the emergency power supplied by Otter Tail, lights were still going out in Brookings. A storm in August 1953 gave Otter Tail extensive trouble. The newest, largest turbine was not yet operating, and the smaller boilers had to be hand-fired to develop enough power to pull the city's load. Need for uninterrupted power by the hospital was solved by automatically switching to SDSC power. Then in December a lightning arrester at the sub-station went out, knocking out both Otter Tail lines and those of the municipal plant.

PRESIDENT EISENHOWER pressed a button at the White House, in March 1953, signaling Gov. Sigurd Anderson to throw a switch, sending the first power from a Missouri River dam in South Dakota through the highlines. This power was expected in Brookings in August but did not come until Nov. 10, 1954. Brookings did not wait for Fort Randall power to flow into the city before cutting itself off from Otter Tail. With all units in good working condition, Gamble decided the city could take care of all its needs. Wires providing standby power were cut.

Viewing the installation of fluorescent lights were General Electric lighting specialist, L.R. Berg, left, commissioners L.J. Wiese, William H. Gamble, W.J. Burdett, and Mayor H. Dwiggins. Serviceman not identified.

Remembering

In the 1950s, if everything went cold and we lost our power, we had 60 two-volt batteries that we could use to operate the switchboard, and on occasion we had to use them. We had a charger to keep them charged. They were glass and when they got corroded, we went to car batteries. We set up some trouble lights that ran off the batteries, so we weren't completely in the dark. Oh, it used to be terrible, and the peak load in the early '50s was only about 3,000 kilowatts. There was no air conditioning. People just didn't use electricity like they do now. The peak load now is more than ten times what is was then.

—Walt Hayes

The city at this time also acquired a diesel generator, to be used in emergencies if the plant had to be "started from scratch should some unforeseen event completely halt all operations."

Adding to the events of 1954 was the retirement after 24 years of plant superintendent Newell. Elmer K. Thon took on the responsibilities.

On August 18, 1954, the wisdom of canceling the agreement with Otter Tail so quickly was put to test. The large generator went out, and the two smaller turbines could not produce enough energy to pull the city's entire load. A call by Gamble elicited a promise from Otter Tail to put Brookings back on Otter Tail's line by the following day. Otter Tail did better than that, getting power to Brookings on the day it was requested. Gamble praised the company and indicated that Brookings had learned its lesson. It would be on Otter Tail lines until Bureau of Reclamation power from the Missouri River was available, probably in early September.

Fort Randall power finally arrived in Brookings on Nov. 10 on a "dump" power basis, which meant the city would receive energy only when it was available. Power was guaranteed, however, for two or three weeks while repairs were made to generating units. After six months a firm agreement was to be worked out. People had been promised lower rates, but the city decided to maintain rates until a firm contract was negotiated and to use profits for a residential lighting program.

Behind the scenes, the electrical department struggled with its problems, but when the Diamond Jubilee celebration rolled around on Aug. 14, 1954, the jubilee band played "Hail, Hail, the Gang's All Here" as the new $22,000 downtown lights came on. The commissioners boasted that the lights—33 standards—were the first fluorescent street lights in South Dakota.

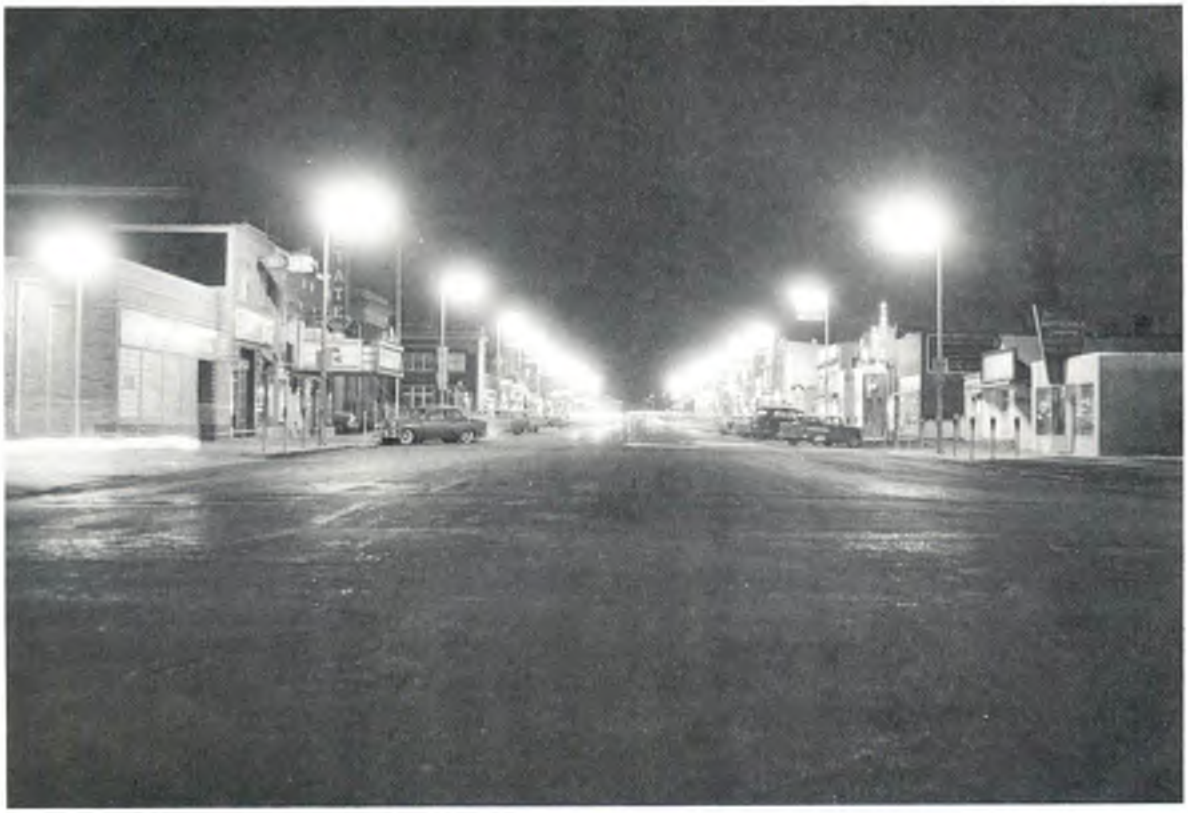
RUMBLINGS OF DISCONTENT about Missouri River power allocation appeared in the *Register* Dec. 8, 1954. As president of the South Dakota Municipal Electric Association, commissioner Gamble, in a letter to Douglas McVay, Secretary of the Interior, Washington, D.C., questioned the secretary about Missouri River power. Gamble had been surprised to read in a trade publication that Nebraska and Iowa were receiving firm power from the Bureau of Reclamation. He told the interior secretary that he hoped allotments were not made on the basis of political expediency and that "the basis for allocation of firm power does not mean South Dakota will continue to receive less than its fair share of power from Missouri River basin dams." When he did not receive a response, Gamble contacted S.D.

Senators Karl Mundt and Francis Case, who promised to pursue the matter.

The commissioner's criticisms of the bureau continued into 1955. Finally, Gamble was named by S.D. Gov. Joe Foss to a committee to examine the fairness of reclamation policies.

Although the long-awaited bureau power now served Brookings on a supplementary basis, blackouts still occurred. One in August 1955 that lasted about 20 minutes was attributed to "trouble of some sort at Fort Randall." Gamble, who spent a great deal of time explaining power failures, announced, after a November 1955 blackout that he blamed on Otter Tail, the Bureau of Reclamation and REA lines, that it would be the last time. "We're over the hump, and if the local plant fails, the bureau will supply full emergency power," he said. Three days later he had to explain a five-minute power outage. "The bureau line went out on us," he said. Outages continued to occur despite foolproof backup facilities. The problem was that it took time to build up the backup power, and usually power from the bureau was restored quickly enough that it wasn't practical to start the backup. Actually, Brookings did have an "ace-in-the-hole." When it ran into trouble with its own equipment or power shortage from the bureau, Otter Tail came to the rescue, minimizing inconvenience to city customers.

All lit up, and proud of it after installation of General Electric fluorescent luminaires in 1958. Looking south on Main Avenue from Sixth Street.



Remembering

Most of the electrical employees got their training from Denny Merchant, who later left Brookings to teach in a vocational school in Mitchell.

Back in the '50s when I started, you just walked in from the street to get a job. You can't do that any more; you have to have a degree.

I came off the farm and started as a fireman's helper. I shoveled coal or whatever; then I was a fireman for three years and then I started to operate the generator. There were three of us on a shift, two operating the boilers and one the generator. You just learned as you went. We operated on a shoestring. The equipment was poor. Everything was inadequate. If someone burned the potatoes at 6 p.m., it would knock out a transformer and sometimes it was 10 o'clock before we got things back on. In 1952 it got better. They redid the switchboard so you could trip it if you got a jolt and you wouldn't overload your transformer.

—Walt Hayes

NATURAL GAS ARRIVED EARLY IN '57. It was used along with coal to produce the power needed for steam heat.

By August of 1957, installation of fluorescent lighting for residential streets was underway. The entire residential section was destined to have "daylight lighting" at a cost of about $160,000. Brookings bragged it would become the "first completely fluorescently lighted city in the nation."

That claim was made official when, in January 1959, Senator Mundt accepted an award from General Electric Co. recognizing Brookings as the nation's first city completely lighted by all-fluorescent lighting. The city had installed 35 miles of streets with 1,148 fluorescent luminaries to the brightness recommended by the Illuminating Engineering Society. Many a column inch in the local paper was taken up in describing the accomplishment.

Once bureau power became consistent and natural gas was available, Brookings was finally beginning to free itself from complete dependence on coal—at a 20 percent saving in fuel costs. Total fuel costs in 1957 were $54,860: 35 percent for coal; 2 percent for oil; and 63 percent for natural gas. Plant income was $519,923, compared to $496,807 in 1956, and net profit was $203,837 compared to $199,317.

Thon summed it up this way: "Very definite savings were realized through such major changes at the plant as conversion from two- to three-phase in the electrical system, removal and replacement of four old boilers by two new and highly efficient 'package' type units, installation of natural gas in all boilers, resulting in approximately 20 percent savings in fuel costs, reduced labor costs through the use of more modern equipment, and general modernization of the plant through the use of automatic controls, better insulation of steam lines, reduction in the loss of treated water, etc."

In December 1958, four years after he had lodged his first complaint, Gamble was still publicly blistering the bureau for giving South Dakota municipalities only "88 percent of their needs" while giving Minnesota, Nebraska and Iowa municipalities more power than they asked for. Still, reclamation power contributed to rate reduction on three occasions. All power used by Brookings was purchased from the bureau or outside sources. The last power generated locally for electricity was in 1960. Rates by that time had dropped from $6.50 to $6 for the first 200 kwh and 1.5 cents for all electricity in excess of 200 kwh. Changes also benefited commercial users in the higher brackets. In February 1961, because of a firm supplemental contract with the bureau, residents received an additional 10 percent discount on their electric bills on a temporary

basis. A report issued by the Federal Power Commission listed Brookings electric rates averaging $7.88 per 250 kilowatt hours for residentials, exclusive of the 10 percent temporary discount, which brought rates to $7.05. State average was $8.62. Because of the availability of supplemental Bureau of Reclamation power, the residential rate per 250 kilowatt hours had decreased from $13.16 in 1951 to $7.05 in 1961.

The city had been setting aside funds for eventual construction of a utilities building. After more than 10 years debating the pros and cons, commissioners in 1966 agreed 5 to 0 to look for an architect to design a building. Reaction to the commissioners' decision was immediate and dramatic. Opponents gathered 137 signatures on a petition to block the hiring of an architect. And that element of the city which had through the years questioned the wisdom of municipal ownership came up with a proposal to sell the utilities. The Brookings realtors led the attack.

TALK OF SELLING THE UTILITIES evoked an eloquent defense of municipal ownership by Mayor Forest Frie. He dusted off all the arguments used in former attacks and tried to discredit some of the arguments advanced by opponents.

While the politics of municipal ownership flowed around the city commission, that body went on about its business. A $300,000 project to bring more stability to power and add security against power failure "got the green light." A new 110,000-volt power line intended to feed additional firm power from the bureau of reclamation was approved.

The commission voted in November 1966 to hire an architect to design a new utility building. Opponents, however, despite the petition's being ruled invalid and the issue not referrable to a vote, scared off the commission. In June 1967, Gamble again turned up the heat. He gave the League of Women Voters a tour of city utilities and organized a postcard poll.

The postcards went out with utility bills, asking: Would you favor the city hiring an architect to study plans for a utility building? Would you favor combining a new city hall with utility offices, or a utility office only? Would you favor using electric utility funds (no tax money) or a bond issue to finance the building? The postcard was considered Gamble's project. Other commissioners said only that they would be interested in the response, and Mayor Frie washed his hands of the poll, saying, "As far as I'm concerned, the issue is dead."

A one-man crusader, Gamble used the local newspaper freely to expound his views and to support his contention that Brookings needed the new building.

1966 — News

Let's sell these utilities and we are sure we are talking about a sale of well over 5 million dollars, and this plus $1 million would give us a total of $6 million; $6 million at 4 1/2 percent using a part of the principal each year would provide us with over $370,000 per year on a 30 year basis. These same utilities would still have to pay school taxes and county taxes and would give us further relief in our tax burden. We sincerely doubt that we can expect a city commission mostly without any experience in the utility business what-so-ever to be able to operate these institutions on the best basis. There is another benefit that is rather indirect to us locally, but it still is a factor and that is the income tax liability that these institutions would have under private ownership.

It seems utterly ridiculous to us to continue with city ownership of these utilities under these circumstances. Let's refer this question to a special group for further study and have these utilities appraised as to sales value and a full investigation made of the probability of a sale and then provide the community with full information and allow the people of the community the opportunity of making the decision.

(Unanimously adopted by The Brookings Realtors, Member of Board, Vince Steward.)

Register 12/17/66

Remembering

The guys have a pretty good time putting up Christmas lights. We kind of get into the Christmas spirit. We furnish the power for all the lights we put up. We haul them out, stack them, change bulbs and maintain them. There's no charge for that. It was a mess at first, but we've got it organized now.

On the lighter side, we had a part-time kid working for us one year and the guys tried to convince him that he'd have to dress up like an elf to help with Christmas lights. He wasn't going to come to work.

– Tom Honkomp

Postcard results, however, effectively brought an end to his crusade. The newspaper reported that 62 percent of those responding opposed a utility building. The outpouring of comments accompanying the returned cards provided a lengthy story in the *Register*. Customers who responded were quoted, and the story provided ample evidence that the means used to elicit public opinion confused the situation more than it clarified it. The postcard poll, however, cost the city just $214; a special election would have cost $1,000.

One action that may have come out of the controversy was the establishment of a reserve fund to cover replacement costs for new equipment. Brookings utilities had previously drawn funds for new equipment as the need occurred.

OUTAGES CONTINUED to make the news. "The breakfast toast came out a little under-done Thursday morning for residents in the south end of Brookings," a *Register* story proclaimed in April 1967. All of Brookings south of the railroad tracks was blacked out for more than two hours. The culprit was a break in a 4,000-volt line. Thon was quoted as saying the cause of the blowout was unknown, but it occurred in a manhole covered by a broken concrete slab. When it blew, a pair of cars parked nearby were showered with dirt and debris.

But the "granddaddy" of blackouts occurred Jan. 10, 1968, when a break in a 41,600-volt cable across the U.S. 14 bypass then under construction north of Brookings snapped "with a brilliant display of pyrotechnics." The lead on the *Register* story was, "It is better to light one little candle, said the poet, than to curse the darkness. Brookings residents did plenty of both Monday night, during a four-hour power outage—in the course of which practically everything that could go wrong, did."

The blackout stirred up Brookings. Main arteries were jammed, thieves robbed three businesses and vandals struck SDSU (now a university rather than a college).

At the theaters, "Bonnie and Clyde" and "To Sir With Love" were shut down. The restaurants and bars stayed open, however, and served by candelight.

One of the precautions taken after the blackout was to arrange for alternate power to keep local radio station KBRK on the air to broadcast information concerning emergencies. Gamble also reported that the new $300,000 power loop would hook up with Watertown on the north and Sioux Falls on the south so that a break anywhere in the ring would mean, not a blackout, but simply a shift in the flow of power.

Thus one area could draw power from another until the break was repaired.

UPROAR OVER THE POSTCARD POLL quieted further action until January 1968. This time, Frie, obviously at odds with Gamble, came up with a proposal to construct utilities offices above the telephone building. Frie displayed plans drawn by J.T. Banner and Associates of Brookings. After lengthy discussion, a motion carried 3-2 to engage an architect for preliminary study of a municipal government building and to give alternate plans that would meet the needs of the utilities and city government.

One plan was to convert the old hospital building for utility use. The building had been used since 1968 for some city offices. That idea was abandoned, however, and the building was later sold to SDSU.

A feasibility study prepared by Spitznagel Partners Inc. of Sioux Falls was given to the commission in July 1968. It covered plans to remodel the present city hall; to build an addition to the telephone building; or to construct a new building. Although a new building was the most costly, the consultants recommended it as the cheapest in the long run. Estimated cost was $278,000 for a one-story building of 14,275 square feet at the corner of Sixth Avenue and Third Street. The estimate did not include architectural-engineering fees, land acquisition, survey and solid analysis costs. The location was favored because of its proximity to the courthouse and the parking it provided. The second alternative, an addition to the telephone building, encompassed an addition to the east plus an entire second-floor at a cost of $280,000. The third choice, remodeling the old city hall, was estimated at $171,000.

First action on the report came late in 1968 when the commission decided to study plans for a new municipal building to house all city departments and then, after approval, to put the issue to a vote of the people. At a hearing preliminary to the vote, the architect explained plans for the two-story building and estimated a cost of $450,000. A Brookings resident suggested the Central Elementary School site, which could house the municipal building, county offices and perhaps a new library. A few days before the election, Boyce Smith, city auditor, and Lloyd L. Darnall, city engineer, used the *Register* to plead the case for a new building. Despite all the effort, however, on April 8, 1969, voters turned down the proposal 884-848.

Dennis Merchant places cable in the ground while Tom Honkomp and Jerald Hetlet cover the trench. Cable was to service homes along a stretch of Sixth Street.

STEPS TO BURY RESIDENTIAL WIRING were taken in September 1969, long after wiring in the business district had gone underground Homeowners were to share a part of the conversion cost, and Thon

Remembering

When we got the water superintendent, the electric superintendent, and the telephone superintendent all in the same meeting, cooperation between services started to improve. Wes Hayes' biggest deal as manager was to let the superintendents do their jobs as they saw fit and not mess with them. People were sick and tired of the turmoil up to that time and they were glad to see something reasonable and steady.

—Andy Jensen

assured customers that ground-level transformers were safe and no one need worry about getting electrocuted.

By April 1970 the $300,000 power loop, started four years earlier, had been completed, but by that time the 15-year span projected for the loop to meet demands had to be adjusted. 3M had come to town bringing with it demands for a large amount of power. A $50,000 sub-station was being built north of the 3M plant along the railroad tracks to supply this power.

A FIVE-MAN UTILITY BOARD, to be appointed by the mayor, was approved by voters in 1970. That action resulted in a dramatic change in the operation of utilities and opened a new era in management. The utility board, by South Dakota law, was autonomous. Its actions were not subject to reversal by public ballot.

One of the board's first acts was to hire a Sioux Falls architect to prepare specifications for construction of a utilities building. The announcement was made in early July 1970, and by the end of that month bids had been let for $268,000. The new building would be located near the sewer plant on Western Avenue. On July 1, 1971, utilities vacated the old hospital building and moved into the new facilities at 525 Western Ave.

A problem of a different nature came to a head late in 1971. The board was forced to deal with an administrative concern that had been building over the years—employee dissatisfaction with the management style of Elmer Thon. The utilities board moved Wesley Hays up from management of the telephone department to general manager of all utilities—electricity, telephone, water and wastewater. Thon was removed from management responsibilities but stayed on for several months before leaving for employment elsewhere.

During the '70s, Brookings citizens accepted placidly the minor inconveniences occurring as electric crews struggled to keep pace with the city's rapid growth. One development on 22nd Avenue, however, raised a few eyebrows. Light poles sprouted up in the center of the sidewalk from the railroad tracks to S.D. 14 on the west side of 22nd Avenue. Lloyd Darnall, then city engineer, explained there was no other place to put them. No right-of-way was required when the lots were plotted, and with 22nd becoming a four-lane street, slightly more than 6 feet remained between curb and property line. Later the sidewalks were set up to the property line to allow room for the light poles. On the east side of 22nd Avenue, right-of-way was acquired in advance. As the electric department continued city lighting, much of its work was coordinated with street widening projects, particularly on Sixth Street.

By the 1970s the effects of new substations, voltage regulators and a huge power transformer had eased some of the irregularities in power. Gradually customers were freed of many of the annoyances that plagued them in earlier years. John Lagerstrom, board chairman, told Brookings Rotarians in March 1971 that the city probably would never again use its electric generators. "We cannot possibly generate electricity for what we can buy it," he said. Lagerstrom, who was dean of the SDSU College of Engineering, said the city could depend on the Bureau of Reclamation for electricity.

It did not, however, take long for Lagerstrom and others to be disabused of the idea that they could depend completely on Missouri River power. By September 1972, the bureau advised Brookings that it would make no firm allocation of electrical power beyond that being used in October 1977. This came as a shock to users who expected the supply to increase with their needs. Hays announced that the department would have to start considering new sources of electricity immediately.

UNCERTAINTY AND CONTROVERY followed the bureau's announcement. Several possibilities were considered. One was to buy power from Heartland Consumers Power District, a Madison-based rural group which had made an arrangement to buy power from Basin Electric and sell it to other cities. Other possibilities were: cities in the South Dakota Municipal Electric Association (SDMEA) form their own company and build their own generator; Brookings obtain power from investor-owned companies such as Northern States Power; the city build its own generator; or Brookings join the Missouri Basin Municipal Power Agency (MBMPA), a collective of municipal electric utilities in Minnesota, Iowa and South Dakota. If Brookings chose to join this last group, it would become involved in large-scale and expensive plans to expand the supply of power for the member states.

Amidst a great deal of community interest and many opposing viewpoints, the field was narrowed to Heartland and MBMPA. "There was no clear cut choice," Hays said. "Both groups were composed of sincere men trying to make the right choices about ways to produce power. Both courted Brookings with all their persuasive powers. Both sold visions, involving huge sums of money, visions that had to be projected into the future. The problem was that no one had a crystal ball.

"In a way, it came down to which group we had more confidence in," Hays said. "I'd have to say that with me it was a gut feeling in favor of Missouri Basin."

1976 — News

The change in the Missouri Basin Power Sales agreement from a 40-year contract to a 12-year contract will allow cities to seek additional power from sources others than the Missouri Basin Municipal Power Agency after 1990. The agency is a group of 63 municipally owned electric systems in South Dakota, Minnesota and Iowa.

Brookings will still receive the maximum allocation of power from the Bureau of Reclamation, but must seek other power sources after Nov. 1, 1977.

The city will continue to pay off bonds that built the plant for a 40-year period. The city does not pay for the cost of the plants directly, but the bonds are retired by the purchase of power from customers. The city will pay only for the amount of power it uses.

—Register 9/23/76

The fact that Watertown had joined Missouri Basin in 1974 and its utility manager was a persuasive salesman influenced the Brookings board. The SDMEA also recommended Missouri Basin. When all the voices had been heard and their arguments considered, the board made its decision: Brookings would join Missouri Basin Municipal Power Agency.

Norm Amundson in the 1950s in front of Erie City boiler controls. Amundson's responsibility was power plant maintenance.

THE DECISION WAS ONE of the most important in the history of electricity in Brookings. It probably ranks second only to the decision in 1960 to discontinue local production of power. History seems to support the wisdom of the choice. Almost two decades later, those most knowledgeable about municipal utilities are convinced it was the right choice. And as the electric department approached its 100-year anniversary, no one was saying, "It should have been done differently." A survey of MBMPA members by the Augustana Research Institute of Sioux Falls in 1989 indicated that not only Brookings but all MBMPA members approved of the agency's services and its plans for the future.

At the time that Brookings joined the group, however, there were many doubters. The pros and cons were debated endlessly, and management and the board had their hands full justifying their decision. A 12-year contract with Missouri Basin was finally signed in 1976. Under its terms, Brookings would get power through the agency but could purchase additional power from other sources as well.

The financing agreement with MBMPA called for Brookings, along with 23 other cities, to back a $1 million loan for the agency to build a power supply facility in Wyoming. Brookings' share was $118,000, to be paid over a three-year period.

A reliable source for additional power had dominated the concerns of MBMPA. To supply power needs of its customers from 1977 through 1980 (termed the "crunch" years), the group decided to build a 1,500-megawatt power plant on the Laramie River in Wyoming. This, and a peaking plant at Watertown, would supplement power from the bureau. It would be in operation in the early 1980s for backup power. Hays warned customers that they should expect higher electric bills after 1977, as the bonds to build the plant would be paid off over a 40-year period.

ONCE AGAIN BROOKINGS CITIZENS found an issue on which to take sides. Opposition to Missouri Basin and higher electric rates came to a climax with a class-action lawsuit brought by a Brookings couple, A.D. and Eleanor Evenson, early in 1978. The suit contested the 25 percent rate increase, which went into

effect Nov. 1, 1977. The Evensons contended the increase was unreasonable because surplus funds had been transferred from the electricity fund to the general fund and substantial surpluses were still on deposit. They were also of the opinion that the city would have been wiser to go with Heartland.

The utilities board bristled at the suggestion they were not managing their business wisely, and Hays, board members and the Evensons took their cases to the public through the local media. Emphasizing the depth of concern about the board's decision to join MBMPA, some citizens circulated petitions to abolish the utility board and return responsibility to the city commission. Brought to a vote in April 1978, voters retained the utility board by a 60 percent margin.

When the ruling by the Circuit Court was handed down on the Evenson lawsuit, Judge Lyle Cheever held that the rate increase was neither unreasonable nor illegal. He found that the pay-as-you-go financing used by the utility board had not caused unreasonably high rates—in fact, Brookings, even with its increased rates, was in the third lowest category for residential users among seven South Dakota cities of similar size. Cheever said also that state statutes did not restrict a municipality from making a profit from services; that the amount anticipated was not out of line; and that the increase to residential users, compared to industrial and commerical categories, was not inequitable. The *Brookings Register* said that Judge Cheever had "also handed out what looks like a compliment to the Utility Board." The judge's statement: "The dramatic increase of power consumption between 1970 and 1976 was handled by the Utility Board without going into debt in any way; thereby keeping their operating expenses down and avoiding the necessity of funding their indebtedness in their annual budget. It would appear that this was a rather remarkable accomplishment. To now say that the utility board must change its entire approach to the funding of these capital improvements is neither reasonable or appropriate." Most of the opposition to Basin Electric as well as the petition to abolish the utility board fizzled following resolution of the lawsuit.

A year after Brookings signed with MBMPA, the organization moved its headquarters from Sioux Center, Iowa, to Sioux Falls. Since 1981 it has occupied a building in northwest Sioux Falls.

Hays, reflecting on the MBMPA experiences, said, "Missouri Basin wanted us in badly. They wanted to expand. As a midwest operation, they were sure of their ability to float bonds. That first bond was $1 million. The last one they floated was for a hundred and some million dollars."

1978 — News

Taxation without representation" recently inspired a drive to abolish the Brookings Municipal Utility Board, according to petition circulator William Kessler. Petitions began circulating Jan. 19.

Kessler has one of 20 petitions intended to abolish the utilities board which was set up for the city in 1970. Generating 500 signatures would force a special election that could return utility management to the commission.

—Collegian 1/25/78

A tradition – installing Christmas lights on Brookings streets.

After South Dakota passed legislation allowing municipalities to band together for joint, tax-exempt financing to meet needs, the South Dakota Municipal Power Agency was formed. The city commission approved Brookings' participation in this agency alongside Beresford, Pierre, Watertown and Vermillion. The agency was needed to provide sources of power at the most economical rate and to issue revenue bonds when necessary. Hays was named to the first board of directors. His successor as utilities general manager, Craig Osvog, was named to the board when Hays retired.

"NOTHING BUT GO, GO, GO" was the watchword of the '70s, according to Andy Jensen, who worked with the line crew during that decade and later became utilities superintendent.

"We didn't repair any old stuff," Jensen said. "All we did was put in new. The 3M substation was being built. There was very little maintenance done on the existing system because it was a full-time job to get the wire into all the new homes and businesses that were going up. Indian Hills was booming; East Acres and Svennes were going; the malls were coming in; and commerical was growing. With all that activity, it was someplace in the early '80s before we had voltages up and reliable service to the parts of town that had kind of got forgotten during the boom period."

In the mid-'70s, the crew was split into line crew and maintenance, and foreman and supervisor positions were established. The maintenance crew took care of street lights, substations, low voltage complaints, signal lights and other services. The line crew built the lines. New employees were hired, most coming from trade schools. Under Hays' leadership, telephone and electric crews started coordinating underground trenching. Until then, telephone was far ahead of electricity on underground work, and there had been little effort to work jointly.

From 1954 to 1971, Brookings utility manager Thon had run the department on a bare-bones basis. Equipment purchases were kept to a minimum, and employees were not sent to schools and workshops to keep up with advancing technology.

One of the areas to suffer during the austere years was underground cable installation. Jensen described the problems: "We got set back 10 years right there. The technology changed, and nobody knew anything about it. We'd get new underground wire in, and it was designed different from overhead. We just skinned it off with a jackknife and stuck it in the transformer. It would last about two weeks and blow up, and we'd do it again, and in two weeks it would blow up again. We didn't even understand that you needed to put a

terminator on it to take the stress off the wire. We'd never been to any schools to learn that. So we got set back 10 years right there. We are still burying cable today that should have gone underground 20 years ago when telephone was burying cable. We should have been underground sometime in the early '70s. The rest of the industry had been there for a few years already."

With the management change and with personnel hired who had received school and workshop training and others who had received special training, the department was ready to handle the new technology.

"We had a long time when we were behind, but we caught up," Jensen said. "Once we got out and started seeing what the rest of the world was doing, we caught up quickly, spent a lot of money and actually surpassed other electric services. We no longer had a problem with sending employees to schools," Jensen said, "and that has not changed If there's a school that comes up, we can get our employees trained in new stuff."

Despite operating costs that had topped $1 million for the first time in 1975, receipts of $1.7 million exceeded expenses of $1.6 million that year. One of the utilities commissioners defended rates by reminding citizens of Brookings that they benefited from the annual transfer of funds to the city general fund in lieu of taxes. Ten to 15 percent of gross income was transferred between 1972 and 1976.

While power outages continued, they usually were less severe. One exception, in 1978, was a half-hour blackout of the entire city caused by a faulty transformer. The line crew switched the city over to feed out of the Bureau of Reclamation substation on an old line that originally fed the city. The line was temporary, and 3M and SDSU were asked to conserve as much energy as possible until the transformer was replaced with a new one, which was sitting at the substation ready to install. When the power went off, Brookings Hospital, the fire and police departments and the telephone department automatically went to standby power systems in their own buildings.

In 1976 the state legislature gave municipal agencies the right to buy out customers who were within city limits but not served by the city. Sioux Valley Electric had about 60 customers in Brookings. The city arranged to purchase transformers and lines of all these customers. The first ones, on the north side of Sixth Street from 22nd Avenue and one mile east, were taken over in February 1976.

STEAM HEAT WAS STILL PROVIDED IN THE '70s to about 100 customers, although the power plant had not, since 1960, generated electricity. Because it

Remembering

Steam heat. Oh, man, wasn't that a mess! There were some upset people when we decided we couldn't continue to supply steam. We had meetings every month. After we quit generating power, and we had to continue generating just for steam heat, the costs were too great to continue.

– Andy Jensen

1978 — News

With the number of downtown steam heat customers dwindling, the steam heat committee has asked the utilities board to subsidize the system.

Marlin Winsel, chairman of the steam heat committee which was formed nearly two years ago when a study recommended that the steam heat system be phased out, made the suggestion Thursday at a joint meeting of the utilities board and the steam heat committee.

"What's wrong with asking for a subsidy for steam heat?" Winsel asked. He said that the system has some value because if it is forced to close down, businesses would be forced to convert to electricity, driving up the cost of electricity for everyone.

Robert Reimers, one of three utilities board members present, questioned whether the state auditor would allow other utility departments to subsidize steam heat.

"I don't think the state auditor would go for it," Reimers said.

– Register 1/13/78

was no longer a by-product of electricity, the cost of steam continued to escalate. Gradually, the service became a money-losing proposition, and the city was forced in 1974 to raise the price. It continued, however, to resist closing down the operation. Customers liked the service because it was cheaper than other forms of heat and it lowered fire risks, thus saving money on their insurance premiums. In addition to businesses, chief users were the schools, library, city buildings and churches.

In 1975, when Northwestern Public Service advised that "dump" gas, which had been supplied at a cheap rate, would not be available for the steam plant after June 1977, the utilities commission hired a consulting firm to study the feasibility of terminating the steam heat operation. The consultants came in with a firm recommendation to shut down the plant; but the city's only action was to increase rates for steam customers. A number of business people had voiced strong objections to ending the service.

By the end of 1976 steam heat rates were $7.75 for 1,000 pounds, up from $1.80 in 1971. Customers, now numbering 88, agreed to pay all expenses, including labor, material, minor repairs, electricity, water, chemicals and administrative and supervisory costs. Early in 1977, the break-even rate was dropped to $7. Number of customers was 78. Northwestern's ban on natural gas for the power plant had, however, forced the city to resort to coal. By August 1977, the number of steam users was down to 70 and the price of steam jumped to $10.50.

Two years later, the number of steam customers declined to 50. The schools, city buildings in the downtown area and several businesses remained as primary users. A steam heat committee met each month to set the following month's rates, based on the previous month's expenses. The committee advanced the idea of subsidizing steam heat, a proposal that had also been made several years earlier. As before, it failed to gain support. The board did, however, agree to foot half of a $25,000 repair bill for the plant smokestack.

The issue finally came to a head. Still controversial and attracting residents to numerous meetings of the utility board and the steam heat committee, it was brought to a vote by the utility board in April 1981. The decision was to quit selling steam to all customers. The school board announced it would discontinue use of the plant in September 1982, and the utilities board agreed to hold on until that point to give the few remaining customers time to convert to other types of heat. The process of attrition had worked. A survey of steam heat users showed that just five of the

downtown customers still wanted steam heat. The city itself was affected because three city buildings—city hall, the old armory and the fire and police building were still using steam. Death had been slow and agonizing, but steam was finally turned off in December 1981.

LARAMIE POWER WAS EXPECTED to come on line in 1980. With it, Hays could assure Brookings residents of ample power for "at least the next decade." He said that two factors combined to supply an unexpected power cushion: population growth had not kept up with projections and conservation efforts had been extremely effective. Hays reported a total of $4.5 million worth of power purchased from South Dakota's Missouri River dams, compared with $8.2 million purchased by Minnesota. Hays did not ascribe to the opinion, held by some, that South Dakota was getting a raw deal. "I guess we've got to remember as taxpayers that we all financed the dams and the transmission," he said. "A guy in Minnesota or Nebraska, if these lines are there, they're going to want some of this power."

Utilities general manager Craig Osvog, center, and Andy Jensen, utilities superintendent, with Missouri Basin representative.

The electric department in the 1980s continued to encourage conservation. There were sound reasons for doing so. Energy provided under the allotment by the U.S. Department of Energy was much cheaper than that from the Missouri Basin agency. Going beyond the Bureau of Reclamation allotment meant that electrical rates would increase. The appeal by the electrical superintendent in the summer of 1980 was typical. It included the possibility of a load management program for residential energy users. The volunteer program would time air conditioners and electric water heaters to run for 15 minutes and shut off for seven. Department equipment would automatically control the program in the homes of those who volunteered. A questionnaire was mailed to customers with their monthly utility bills. Before any official action was taken, however, MBMPA came up with a surplus of power which, with other conservation activities, eased the pressure.

Conservation measures included reducing energy consumption during all peak periods, changing fluorescent street lights to pressure sodium lights, installing underground electric lines, and trimming voltage by a small percent in some residential areas. The department took steps to reduce its own electric consumption. It also purchased equipment which helped monitor electric use in peak demand periods. All of these actions saved energy.

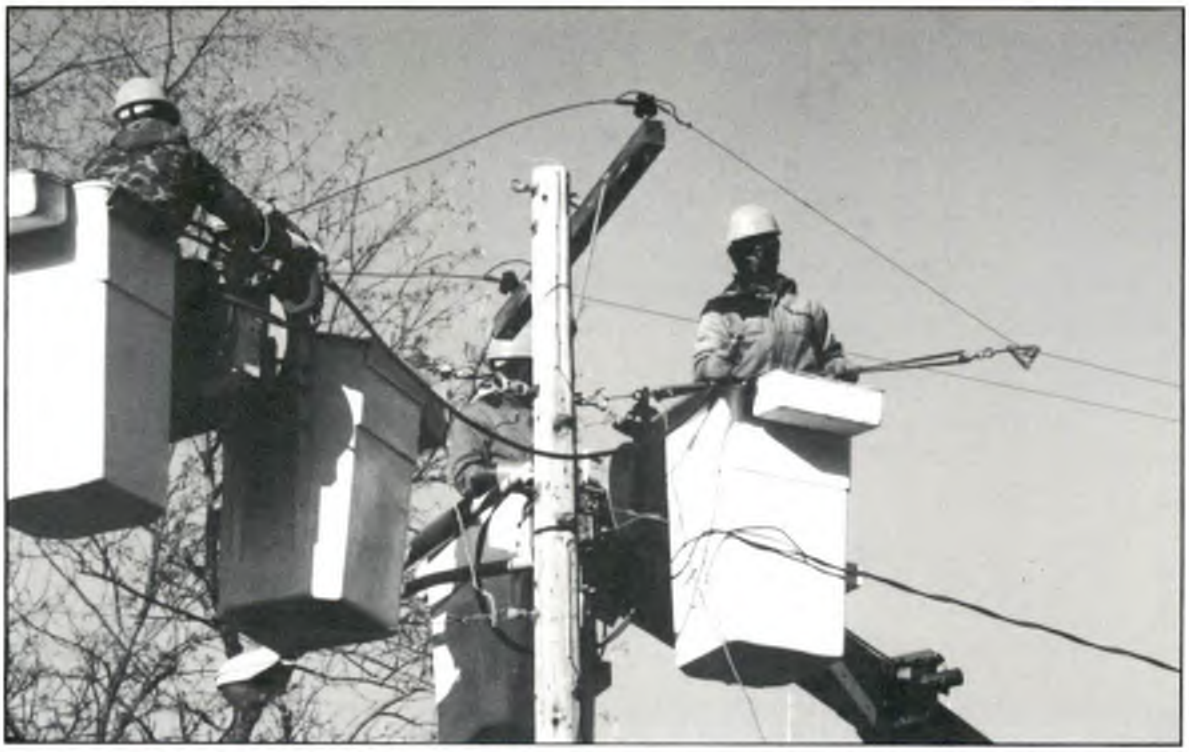
By March 1983 the utility department's conservation efforts had effected some change. Helped by a mild winter, peak demand for electricity dropped for

the first time in five years. That meant that a larger amount of power came from the Missouri River dams and less from the Laramie power station in Wyoming. The utility department paid about 1/2 cent per kilowatt hour for the power it purchased from the Bureau of Reclamation. When additional power was needed from the Missouri River Basin agency and other sources, it paid about 4 cents per kilowatt hour. The ups and downs of power availability, however, continued to leave utility managers—none of whom had any significant control over the supply—with "pie on the face." The problem was compounded by the policy that once a new peak rate was established for power, that higher rate was locked in for at least six months. When an energy shortage suddenly became a surplus, it was hard for customers to understand why they had been asked so often to conserve. The point was, however, that high power usage meant higher rates, and the electric department had to justify rate increases. Craig Osvog, who had become utilities manager in 1981 when Wes Hays retired, explained a surplus of power available to Brookings while there was a shortage on both coasts:

> "Headed into another air-conditioning season, power users in the east and west part of the country again face the prospect of so-called 'brown-outs,' in which generating equipment is taxed beyond its capacity.
>
> "But as the thermometer begins its flirtations with 90 and 100-degree readings, energy officials in South Dakota and the Upper Midwest are trying to figure out what to do with a surplus.
>
> "It is estimated that the Missouri Basin Municipal Power Agency, which includes Brookings in its membership, has a 25 percent reserve currently.
>
> "California suppliers of electric power now have only a 2-3 percent reserve, which is 'very critical.'
>
> "The load management prospect, which produced a recent customer survey, had been 'put on the backburner for a while.'
>
> "We're still very interested in load management. It's a good concept and one we'll see more of in the future, I'm sure. It's just that, at this point in time for our particular utility, it doesn't look apropos."

The power plant, no longer needed when Brookings elected to purchase its power from the Bureau of Reclamation and other sources, was demolished in 1980. Because steam heat customers were tenacious—and vociferous—in their efforts to retain the steam service provided by the power plant, the plant survived for 20 years after the city was no longer generating its own electric power. Finally, the cost of supplying steam heat became prohibitive and the last holdouts capitulated.

THE WRECKER'S IRON ARM sounded the death knell in August 1982 of a significant part of Brookings utility history. When the city terminated its steam heat service, there was no longer use for the power plant on Fourth Street and Fifth Avenue. The twin-towered plant slid to the ground as the last plant foreman, John Krein, stood by watching. Krein, who was retiring from city service, had worked in the plant for 31 years, from the time it provided electricity for most of the city to its last breath as a source of steam heat. The building E.E. Gaylord had erected in 1887 "to operate a system of electric lights in the city" wasn't



Working from buckets, the line crew stretches wire on a primary line.

mourned by Krein. When he was asked in an interview what went through his mind as he watched the towers come down, he replied, "It doesn't bother me a bit. It's just something that's past, I guess." Krein, whose jobs ranged from fireman's helper to foreman, said, "I didn't know anything when I came," he said. "But we learned. And, hell, now I got a Minnesota Chief Engineer's License—Grade A, best one they got." His experience as a Brookings utility employee mirrored that of many others—he learned his trade on the job and through special schooling made possible by the city. Utility employees grew in knowledge and expertise as the city's electrical service grew.

A MAJOR CHANGE CAME IN THE MID-'80S with the increased use of electronic technology. The goal was eventually to convert completely to electronics. Supervisory control and data acquisition permitted a supervisor in the main office to read voltages and amperages at substations and control a number of functions without leaving his office. Computers at all substations were attached to breakers and meters with sensors down the line. The information gathered was reported back to the central computer and displayed on a screen.

By 1990 the utilities department was able to offer some flexibility in commerical rates. In an effort to meet statewide competition for new industries and facilitate economic growth, the board adopted a policy

in 1990 allowing cheaper utility rates to new and expanding industries.

> "Our philosophy in allowing cheaper rates to new and expanding industries is to encourage industry. If more profits are generated, then the need isn't as great to increase utilities rates. You achieve an efficiency in the scale of operations. We're willing to support industry to support higher efficiency." John Thompson, vice president utilities board. *(Register, 3/13/90)*

THROUGH THE YEARS, an autonomous utility board has allowed utilities to operate in a businesslike way, free of politics, Osvog emphasized.

"The advantages realized by transferring business management to a board are well recognized," he said. "This enables us to focus on business principles and what is best for the consumer as a customer as opposed to what is best for a consumer as a voter. And there is a difference. Board members have recognized that their service on the utility board is a valuable contribution to the community and they have done some things that have been very good for the community."

Tim Murphy and Bob Erks in the 1960s putting in a breaker fuse on a line running from the transformer.

Remembering

When I was a kid at home when the lights went out, we'd pull out the candles and the kerosene lanterns and we had some good times. Every since I started here when the lights go out, I don't stay home; I don't light the candles; I jump in the car and come to work. I've never been home in an outage since I came to work here.

–Gary Huisken

I can remember really bad storms when the water guys showed up to help the electric crews. I don't know anything about electricity, but I can hand parts to the guys. Everybody pitches in and helps.

–Dave Felton

Days of soot, black smoke, give way to hydropower

If you go back to the old days when we had the power plant, people walked up and down the breaker aisles and took meter readings. They could see which breaker was closed, which open. As time went on, we started buying our power. Rather than a generating plant, we had substations, and as the load increased we added stations. These stations were all over town and we couldn't just send a man out to walk down the aisle to see if the breaker was closed, where the power was going or what the meter readings were. We lost that with the power plant, but it was progress because otherwise we'd have the old power plant and all that dirty smoke around town. Now we had nice, clean hydropower. But if someone's breaker tripped off, we didn't know it and could spend a lot of time sending trucks and people to the wrong places.

With computers more prevalent, the industry was going to something called Supervisory Control and Data Acquisition (SCADA). So what we did was to install computers at each of the substations. These computers are attached to the breakers and meters and have sensors down the line. They take all information and by telephone report it back to a central computer. Now by punching a button we can display on a screen all the information from any substation. Now when the power goes out, many times we'll know that the power is out and that it's our breaker that is open. Sometimes we can have the power back on before a customer has a chance to go to the basement to check his fuses.

The system is automatic enough so that it calls for help when it needs it. If something abnormal happens, it sends an alarm. At night that goes to the police department where it calls pagers automatically. Our standby man will come in and see what the problem is. It's really quite well automated.

Comparing the 1970s with the '90s, I think today we have a system we can be proud of. I don't care where you go, you can compare us to nearly anybody and you can say that not only is the equipment up to shape, but the quality of power is good.

—Gary Huisken

Conversion from two- to three-phase system

By *J. O. Storry*
retired Dean of Engineering
South Dakota State University

In the early years of electric utility systems in the USA both two-phase and three-phase systems were used. Brookings used the two-phase system. As time went on, two-phase systems fell into disfavor. Brookings city officials realized they would have to convert to a three-phase system sometime. Many years passed, however, and it was 1952 before the decision was made to convert to three-phase. I was enlisted to do the major part of the engineering. It was one of the most interesting jobs I ever had.

The major phases of the work can be described under these headings: transmission line, substation, distribution lines, power plant metal-clad switchgear, two oldest turbine-generators, and the newest turbine-generator.

TRANSMISSION LINE

The Otter Tail Power Company had a number of lines which operated at 41.6kv, not a common voltage. Otter Tail was connecting to what was then a Bureau of Reclamation substation north of Brookings. The city engaged the services of an engineering firm to design a 41.6kv line from the Bureau substation to a new substation in Brookings.

The power plant was located at the corner of 5th Avenue and 4th Street. A substation with a single three-phase transformer was built just to the east of the power plant. This substation transformed the 41.6kv incoming voltage to the new system voltage of 4160Y/2400 volts.

DISTRIBUTION LINES

At the time of the conversion the distribution lines were served from

J.O. Storry

metal-clad switchgear in the power plant. Much of the equipment in the power plant was out of service during the conversion; so it was necessary to feed distribution lines through temporary connections to the substation. Extensive reconnections of transformers on the distribution lines were necessary.

On lines that had no polyphase motors these steps were taken:

1. The two phases of the original system were connected to two of the three phases of the new three-phase source at the substation.
2. In the above step there were two neutrals. One neutral was designated as the permanent neutral. Transformers which were connected to the "other" neutral were reconnected to the permanent neutral.
3. When the above work was completed, the "other" neutral had nothing connected to it, and it was then connected to the third phase of the new three-phase, four-wire source.
4. Transformers were reconnected on various phases to balance phase loadings.

A very interesting problem arose when provision had to be made to supply a few two-phase motors. A unique transformer connection was devised which used standard transformers. One transformer had a 4160-volt primary; the other a 2400-volt primary.

METAL-CLAD SWITCHGEAR IN THE POWER PLANT

The metal-clad switchgear in the power plant was rather new when the conversion was made. It was a modified three-phase switchgear assembly with three-pole breakers. An insulated bus was provided to handle the fourth conductor of the two-phase system. Instrument transformers, instruments and relays were properly connected for the two-phase system.

Changes in instrumentation, relaying and instrument transformer connections were necessary to make the switchgear suitable for the new three-phase system. The metal-clad switchgear was originally supplied by Westinghouse, and a Westinghouse field engineer was engaged to make the necessary modifications.

TWO OLDEST TURBINE-GENERATORS

The power plant had three turbine-generators. The two oldest units were manufactured by Westinghouse and were wound up 2400-volt, two-phase output. The oldest unit was rated at 1,000kw; the other was rated at 1,250kw. These generators could not be reconnected for three-phase outputs. Specifications were written and contracts awarded to Westinghouse to furnish and install new generator coils.

NEWEST TURBINE-GENERATOR

It appears that serious thought must have been given to converting the system when this set was ordered because it was shipped connected for a 4160Y/2400-volt, three-phase output. It was rated at 3,000kw.

This unit had an Electric Machinery generator, and an EM field engineer was retained to reconnect the unit for two-phase. The winding design did not permit one to get an ideal two-phase output with voltages 90 degrees apart, but voltages were close enough to ideal to permit satisfactory operation. One consequence of the connection was that a third of the winding was not used.

When it was time to convert the generator to three-phase again, an EM field engineer reconnected the coils as they were, then the unit was shipped from the factory.

Other individuals who were deeply involved with me in managing the conversion were William H. Gamble, city commissioner; Thomas Newell, superintendent of utilities; William Streeter, power plant superintendent; and Henry Shirkey, line superintendent.

Brookings Electric
Events of Interest, 1893-1982

1893 – City Ordinance number 34 allowed for the purchase of Gaylord's Steam Plant by city warrants for $1,575.

1899 – Purchase of Electric Light Company for $5,000.

1903 – 24-hour electric service starts.

1903 – Steam heat plant completed.

1909 – First electric washing machine in Brookings.

1911 – E.H. Beatty and C.D. Kendall get electric signs.

1912 – Brookings without lights and power for three days.

1924 – Last concrete poured for power plant chimney.

1926 – Work starts on heat tunnels from power plant.

1927 – Electric gong used at railroad crossing on Main Street.

1928 – Electric football scoreboard used first time.

1932 – Streets to have Christmas lights and wreaths.

1939 – First overhead traffic light installed at 6th Street and Medary Avenue.

1951 – $300,000 bond issue approved to modernize plant and change from two- to three-phase.

1952 – First purchase of power from Otter Tail Company.

1952 – Changeover from two- to three-phase completed.

1954 – Power purchased from the U.S. Bureau of Reclamation.

1954 – Flourescent street lighting installed.

1954 – Fly ash incinerator eliminates flying cinders.

1955 – Two oil and gas-fired boilers replace four coal boilers.

1956 – Electric rates reduced from $13.25 per 250 KWH to $8.37 per 250 KWH.

1958 – Remodeling of boiler plant completed.

1959 – Brookings first city in nation completely lighted by flourescent lighting.

1960 – Electric rates reduced from $8.27 per 250 KWH to $7.87.

1960 – Electrical power production at city power plant discontinued.

1961 – Electric rates reduced to $7.05 per 250 KWH.

1968 – Old hospital building becomes temporary housing for utility offices.

1968 – Four-hour power outage.

1976 – Sioux Valley Electric customers within city limits purchased.

1978 – Citizens vote to retain utility board.

1978 – First power purchased from Missouri Basin.

1981 – Steam heat shut off for remaining customers.

1982 – Power plant torn down.

Chapter 4—Telephone

"Take the receiver from the hook, place it to the ear, and await the operator's request for number. The best results will be obtained by speaking directly into, and close up to, the mouthpiece in a clear, not-too-loud, tone of voice."

THE FIRST PEOPLE IN BROOKINGS who had telephones in 1899 needed specific information on how to use this amazing new way of conducting business and communicating with friends and neighbors. Telephone operators and what was then the privately owned Brookings Telephone Company provided constant instruction.

While the first telephone exchange was established in 1899, telephones were not entirely new to the community. The first record of a telephone in Brookings had appeared almost 20 years earlier. Using tools at hand—a toy drum, rubber buttons, bottle necks and copper wire—and applying his recently acquired knowledge of an invention patented a few years earlier, young Sherman Poole assembled a telephone in the early 1880s.

Poole used a technique introduced by Alexander Graham Bell in 1876. After years of trying, Bell had finally managed to transmit understandable speech over an electric wire. His first words, "Mr. Watson, come here. I want you!" changed the lives of people worldwide. History records, however, that Bell was just three hours ahead of Elisha Gray, who filed specifications for a similar device. And Bell should not be given credit for originating the word "telephone"; it was coined before he obtained his patent.

The young man who assembled a telephone in Brookings used his device to communicate between his home at the corner of what is now Third Street and Fifth Avenue to the Poole livery barn almost a block away. He had made his telephone by cutting a drum in half, attaching copper wires to each half with a rubber button and using bottle necks as insulators. The drums were fastened to the walls, and a signal given by tapping on the drum was plainly audible at the other end. Two people could then communicate by talking into the drums.

The world had not rushed to acclaim Bell, nor was young Poole lauded in Brookings. Citizens of that day were not ready to jump at the opportunity to communicate with someone they could not see face-to-face.

Many early telephones were made by the Stromberg-Carlson Company. A few of the instruments were still in use when the telephone department converted to dial telephone in the 1950s. This telephone was approximately 65 years old when it was photographed in 1958. It was still in working order and was used by Mr. and Mrs. Ed L. Merchant of Brookings until 1956.

1897 — News

Several years ago this city had a small telephone system, comprising about a dozen instruments, and although the service was very crude, all business going over the same wires, it was found to be very convenient in many cases. Of course the value of an exchange is enhanced by the number of phones connected with the line, as the more there are the more likely you are to be able to reach the person you want from your phone. It was principally on account of the small number of patrons that the old system was discarded, for it was an expensive luxury to support a telephone instrument for the convenience of occasionally talking with perhaps one or two business houses. In fact the system would never have been even a limited success had it not been for the long distance to the college, and the fact that the institution was connected with the business houses, with which it did considerable business in those days.

We dare say that the people of the city will lay up to this new local enterprise and give it the support necessary to insure its success.

Brookings Press, 10/27/1897

Many critics dubbed the telephone a folly, and many believed it a hoax. Only after it had been demonstrated at the Centennial Exhibition in Philadelphia, where Emperor Dom Pedro of Brazil was reported as exclaiming, "My God! It talks!" did Bell embark on a series of personal appearances to demonstrate its potential.

Few people dreamed that the telephone would be accepted so quickly, but as early as 1892, 240,000 telephones were in use in the United States and 10,000 workers employed in the industry.

When Bell obtained his first patent, Brookings was still seven years short of finding a place on the map. In 1883, four years after the city was founded, an independent company expressed interest in establishing a telephone exchange.

A brief story in the June 28, 1883, issue of the *Brookings County Press* reported that the Southern Dakota Telephone Co. had been in town to look the field over with "a view of putting in an exchange." The company was said to be planning a system between Flandreau and Sioux Falls in which Brookings might be included. This plan, however, never materialized for Brookings.

The *Brookings County Press* reported on Aug. 6, 1885, that Dr. C.A. Kelsey's office and residence were connected by telephone. Three years later it was reported that telephone lines were established between Dakota Agriculture College and the city, with about a dozen connections downtown. This downtown system was in use for a couple of years, but the telephones were removed in January 1890 because of the small number of patrons. From that time on the *Brookings County Press* editorialized on the need for a telephone system.

The *Press* asked, in an article March 15, 1894, "What is the matter of putting in a telephone exchange in Brookings? The patents on the Bell Telephone have expired, and the machines that used to cost $20 apiece rent per year can now be bought for $15 a pair, or $7.50 each, and then all rent and expense will end."

In view of the value of a dollar in the late 1800s, the rate must have been startling. Moreover, it did not mention the cost of erecting lines to carry telephone conversations, estimated at approximately $100 to $150 a mile.

IT WAS THREE YEARS before any concrete information about a telephone exchange again appeared in the local newspaper. The delay was not for lack of interest. In 1896, T.F. Robinson of Pipestone, Minn., had shown up in Brookings asking for a telephone franchise. The following year he returned and spent

two weeks canvassing the city for subscribers. He was successful and said he would start the plant as soon as the weather was suitable. It would be built with "greatest possible dispatch," he promised.

In its self-appointed role as telephone booster, the *Press* reported that although Robinson had secured a large number of signers, he had not been able to contact everyone. Anyone desiring a telephone was asked to drop a card to the city. "It is important that the location of all the instruments be known before the construction work is started, so the routes for wires may be planned to the best advantage." Rental for residence phones was listed at $1.50 per month for day and night service, with each telephone to have a private line to central.

The city council passed an ordinance giving Robinson permission to put up poles and wire in streets and alleys, provided he would agree to supply two telephones free to the city. Robinson balked at this. The council relented and struck the free telephone provision. Mayor A.W. Hyde, however, insisted on the two free telephones, and vetoed the ordinance. Robinson left town in a huff, reportedly for Minnesota to superintend construction work on a line between Lake Benton and Tracy.

In the freewheeling editorial style of the day, the *Press* expressed its disappointment in the mayor's action:

In the early days of telephone, cable was often loaded on a cart which was pushed to its destination by a telephone employee. When necessary, however, Joe Tree Dray was called. This is thought to be the dray (with the reins in the hands of Joe) carrying telephone servicemen and a load of cable. The photo was taken behind the telephone office near the cable yard, an unfenced lot where spools were placed. The empty spools often showed up in residents' backyards as picnic or children's play tables. Later empty reels were returned to the manufacturer. The two large poles in the background carried the main cable wires leading from the telephone department.

The doctor is not bigotted enough to take exception to honest difference of opinion, and it is our honest opinion that his veto of the telephone ordinance was short sighted, and that he did not represent the progressive element of the city in so doing. But the thing is done, the jig is up, and the matter might as well be dropped. In conclusion we will say that we still have lots of use for Dr. Hyde, and in case of sickness in the editorial family he would be in immediate demand. But the *Press* must beg to be excused from following any man blindly to the end of time for $25 worth of patronage which was earned four fold. (*Press,* 4/29/1897)

Five months later things seemed considerably brighter. A three-deck headline appeared in the *Press:* "Say, Hello!"; "The City Fathers Grant a Telephone Franchise to D.H. Campbell, For a Local Exchange; A Canvass of the City Will Be Made At Once and If Enough Phones Are Pledged Work Will Begin."

Campbell's proposed system was similar to Robinson's. "Every telephone will have its own wire to central office, and conversation between any two phones will be strictly private. The cost will be about the same as was talked last spring, which is as low as is consistent with high class service."

The company Campbell represented was never clearly identified. He may have been a "floater," said R.J. Perry of Aberdeen, retired Bell Telephone employee and authority on early telephony in the northeastern part of the state.* Dozens of little companies were formed to erect poles and provide telephone service in small towns. Campbell's company may have been one of these, or he may have planned to find someone to erect poles, Perry said.

The newspaper, eager to see the deal sealed with Campbell, reminded citizens of the mayor's "folly" in vetoing the earlier agreement. Nothing more was reported in the local press about Campbell, his franchise, or any other, for about a year and a half.

PLANS TO CONNECT BROOKINGS with long distance service were progressing, and the *Press,* as usual, was optimistic. In March 1898, the paper announced that the city would be connected with the

Remembering

The cable pole in front of the telephone office on 4th Street was a 50-foot pole with eight 12-pin cross arms on it loaded with wire. Lines going south and north from this pole. All poles were from 40 to 50 feet high until you got away out in the residential district. The idea in those days was to have the poles long enough so you could keep adding these cross arms as lines were needed. This system was just another headache when the wind blew the wires would swing and cross up. In the summer, the heat would slack the wires and in the winter the cold would pull them too tight. The frost and sleet would bother in winter and the lightning and wind again in the summer.

– Charles Shea

* Editor's note: Before his retirement from Northwestern Bell, R.J. Perry had established an extensive telephone museum in the Bell Telephone offices in Aberdeen. Much of it consisted of items and papers obtained from the J.L.W. Zietlow family. Perry contributed the major part of his collection to the South Dakota Cultural Heritage Center, Pierre. An exhibit of this material was dedicated at the center in May 1991.

long distance system about July 1. On June 9, 1899, the city commission passed an ordinance permitting Dakota Central Telephone Lines Inc. to erect poles and string wires in the city. By June 16, the editor complained, "We have seen or heard nothing about the long distance line here for a good time, but expect the gang to show up pretty soon." On July 21, the "gang" arrived.

The office was located above the Aldrich Drug Store and telephones were placed in the First National Bank and in the flour mill to connect with the Volga branch.

In February 1899 an article in the local press announced that anyone purchasing a share of telephone stock would be entitled to free use of the long distance

Additional poles went up as the number of telephones in Brookings increased. Unidentified members of an early telephone crew paused for a photo in the early 1900s as they worked near the telephone building.

1898 - News

The box office for the long distance telephone was put in position at Aldrich's Drug Store Tuesday, and now patrons at the line can talk without advertising their business to the town. The long distance line has been well patronized so far and is growing more popular as its advantages become well known.

Brookings Press 9/29/1898

lines, and two months later the newspaper was able to report that J.L.W. Zietlow, representing the Dakota Central Telephone Co., had arrived in the city to solicit patronage and make plans for forming a local stock company. Zietlow announced that if 50 or more patrons were secured in Brookings, the company would begin work on the exchange at once. Some citizens wanted to form a local stock company to put in an exchange or, in lieu of that, to buy an exchange after it was operating.

From October 1897 to the spring of 1899 there was no action on a local exchange. On April 17, 1899, the city council granted a franchise to the Dakota Central Telephone Co.

Perry, who has comprehensive records dealing with companies Zietlow was involved with, says that Dakota Central Telephone Co. was not in existence in 1899. It did not receive a charter until Aug. 20, 1904, five years after a contract was supposedly signed with the city of Brookings. The confusion in company names may be attributed to the similarity of names between Dakota Central Telephone Lines, Zietlow's long distance company, and Dakota Central Telephone Co. Eventually a number of small companies were consolidated by Zietlow in August 1904 to form Dakota Central Telephone Co. The long distance lines and office in Brookings operated by Dakota Central Telephone Lines Co. became part of Dakota Central Telephone Co. in the 1904 consolidation. All available records from the city and the telephone company, starting in 1899, refer, however, to contracts and business with Dakota Central Telephone Company.

Zietlow, an emigrant from Germany, founded the Dakota Emner Telephone Co. in Aberdeen, S.D., in 1886. He had homesteaded in Spink County during the 1880s. By the time he approached Brookings about a franchise, he was well on the way toward parlaying his independent telephone exchange into a multi-million dollar business.

On May 4, 1899, the *Press* reported that the exchange ownership had been settled by "a conference between our citizens and Mr. Zietlow." A company organized by local capital had taken two thirds of the stock, Zietlow the other third. Articles of incorporation had been filed on May 3. Authorized capital was $5,000, of which $3,000 was paid up. The board of directors consisted of A.W. Hyde, president; R.F. Kerr, vice president; George P. Sexauer, secretary; and J.L.W. Zietlow.

The *Press* had reported earlier, "Central Dakota does not care so much about who owns the local exchange as that the exchanges are put in to work in connection with the long distance lines." That seemed

also to be the attitude of Zietlow, and it may account for an unusual aspect of the contract, which set the stage for what was eventually to become a very prosperous, long-term municipal telephone system. The provision gave the city the right to purchase the telephone exchange from Dakota Central within three to five years. Without this clause, the city—had it wanted later to get into the telephone business—would have found it necessary to compete with Dakota Central and to duplicate much of what was already in place.

Work started shortly after the local stock company was formed. The *Press* kept tab on the progress.

A week later the newspaper reported that wires were "about all strung and the work of putting in the phones will commence in a few days."

THE TIME HAD COME to engage the first 'Hello Girl' for the local system. She would be Miss Jennie Downing and her office would be over Locke and Brooks Hardware. Miss Downing and her sister were to "keep house" in rooms adjoining the office, "thus insuring the best of service," the newspaper reported. The comment in the *Press* was: "The company could not have made a better selection for central, in our opinion, and we predict that the patrons of the exchange will find Miss Downing an obliging and competent "hello girl."

Through the remainder of the summer, the *Press* reported progress, including a claim by Zietlow that "the exchange will be one of the very best in the country." With its usual optimism, the *Press* reported in late August that the plant would be completed and put into operation soon. Apparently things went smoothly, because a later story said the telephone exchange was running.

> There are now about 63 phones in actual use, and 20 more ordered. The full capacity of 100 will no doubt be reached before the close of the year. The exchange has been built in the best possible manner and about $1,000 more expended than originally planned. People are becoming to consider its conveniences almost indispensable, and probably the day will soon come when a house without a telephone will be an exception. The exchange here starts out with better service than is usually secured during the first month. Miss Downing, our "hello girl," is getting the hang of the thing very readily, and is painstaking and accommodating. She and her sister live in the rooms adjoining the telephone office, and patrons of the exchange are furnished with night and day service. In regard to the night service, perhaps a little explanation for the benefit of the uninitiated patrons would be in order. "The central" is supposed to be at her post in front of the keyboard continually during the day and evening, but when she retires for the night an alarm

1899 — News

The construction gang at the telephone company had several photographs taken Tuesday, showing them in various clusters on the big pole at Lockwood's Brooks corner. One or two of the poses were good enough to be views taken from Ringling Bros. circus.

Brookings Press, 7/13/1899

The first telephone exchange as it appeared about 1900.

attachment to the key board is set, and if a receiver is taken down anywhere in town the alarm goes off and the case receives attention. This night service is intended only for urgent calls, and the central should not be called after midnight except in cases of sickness, fire, etc. Sunday service will be furnished for the present until 10:30 a.m., and from 1 to 3 p.m. (*Press*, 10/12/1899).

The first telephones in use by Dakota Central in Brookings may have been any of a number of models Zietlow was using in Aberdeen, Watertown and other towns where he had lines. The telephones were magneto telephones, purchased from companies other than Bell Telephone (at least until the Bell patents expired).

The first switchboard in Brookings was a Monarch 100-line common return operator cord board placed in a building at 226 1/2 Main Ave., occupied in 1990 by Langland TV and Appliance. Before long a one-story building was erected on Main Street. The outside plant facility was 100 percent aerial, open wire cable.

In 1899, when the telephone company was required to remove poles from Main Street to make way for electric light poles, a one-story brick building was erected at 415 Fourth St., present site of the telephone department.

The growing number of patrons and details about installations continued to be recorded through 1899. In October the exchange had 75 subscribers; in November, the court house had been fitted with extension bells in the different offices so that the auditor could signal other offices for calls; in December, copper return wire was installed to cut down on the number of patrons on one line. Number of phones rose to 92. In 1900, lightning arresters were placed outside buildings to insure protection for the instruments during thunderstorms; 122 patrons used the exchange; and new Sunday hours went into effect allowing service 8 to 11 a.m., 2 to 3 p.m. and 6 to 7:30 p.m.

CITY OWNERSHIP of the telephone company was still being discussed, with opinions strong on both sides.

The year 1900 closed with announcement of a Dakota Central stockholders meeting. No dividend was declared.

The final news note of 1900 appeared in the *Press*: "The telephone company has put in a generator at the roller mill, which during the running hours of the mill generates electricity for the hello girl to use in ringing the phone bell, instead of having to do it with a crank as formerly. Now a little lever is pulled as many times as rings required, and the calling is done much quicker and easier."

When Zietlow operated his independent telephone company in Brookings from 1899 to 1903, he was one

of only two independents operating in the United States, according to authors Paul Latzke ("Fight with an Octopus") and Charles A. Pleasance ("The Spirit of Independent Telephony"). Most of the country was dominated by Bell, whose patents gave it a stranglehold on the telephone business in the United States. A Supreme Court decision in favor of Bell in 1887 had allowed the company to proceed against any company not operating as one of its licensees.

> As soon as this decision (Supreme Court) came down, the Bell people proceeded to stamp the life out of the last of these competitors. In a dozen states, injunctions were secured and infringement damages promptly assessed. Under these judgments, telephone plant after telephone plant was ripped out, and the apparatus was piled up in the most conspicuous place that could be found and burned in a public bonfire as an "object lesson." In St. Louis and the surrounding country, the Pan-Electric Company and other concerns had a number of active exchanges in operation. The equipment of these exchanges was piled upon the levees high as a house and then the torch was applied. . . . By the end of 1888, not a single plant outside of the Bell system was at work, except in two small places. In the little town of Fort Smith, Arkansas, Dr. Harrison, a practicing physician had built up a little exchange with apparatus that he had bought in St. Louis. When the Bell lawyers went after him, he defied them and their power to close him out . . .
>
> The only other man who succeeded in escaping the Bell dragnet was J.L.W. Zietlow, now president of the Dakota Central Telephone Co. with headquarters at Aberdeen, South Dakota. Mr. Zietlow during all the Bell litigation managed to keep two small exchanges open in Dakota. But it is generally understood that Zietlow's case was different from Harrison's and that the Bell people tolerated him for reasons of their own. This impression has gained strength from the fact that Zietlow's company is now an open ally of the trust and the Independents have cast him out. (Charles A. Pleasance, THE SPIRIT OF INDEPENDENT TELEPHONY, page 21, published by Independent Telephone Books, Johnson City, Tennessee in 1989.)

Perry objected strongly to Pleasance's intimation that Zietlow was in cahoots with Bell. "The only reason that Zietlow was able to withstand Bell's sweep of independents was that his telephone exchanges were not based on Bell patents but on principles invented by a German, Phillip Reis, whose telephone was constructed in 1870 prior to the time Alexander Graham Bell patented his telephone," Perry said.

Perry claimed that early in the process of working out problems in the business, a device used by Zietlow improved reception and permitted multiple lines to be connected. At the time, Zeitlow did not have the funds to patent it, and two years later a similar device was patented by John J. Carty and purchased by Bell. It

1900 — News

In conversation with Geo. P. Sexauer, Secretary of the Brookings Telephone Co., he related an amusing incident which occurred shortly after the phone system had been installed here. An old farmer living about a mile north of town was doing business at the mill and while waiting stepped into the office. Receiving a phone call, George took down the receiver and to the great astonishment of the farmer, began to talk into the machine. Recovering from his great surprise, with mouth open and eyes bulging out, the farmer finally gasped, what is that? A telephone! A what? A telephone! What do you do with a telephone? I speak to my neighbors through this machine, George said, and suggested to him that he would call up George's house and in so doing, would state to his wife that he had an old friend here, who was not acquainted with the mysteries of telephone, and the farmer could use it without restraint. The farmer then inquired, where does your wife live? Oh, about 7-8 blocks from here, replied George. Can I see your wife? asked the farmer. Why no! And me talk to your wife and can't see her, and 7-8 blocks away, no sir, you can't poke that down me.

Brookings Press, 3/15/1900

became a vital part of Bell's long distance lines. This patent on the Carty device was one of the clubs used by Bell to force others out of the business. When Zeitlow proved he had been using the device two years before it had been patented, the Bell system cancelled all the lawsuits with Dakota Central. This permitted Zietlow to retain his company when Bell was eliminating companies across the entire country.

By escaping the acquisitive Goliath that swallowed or destroyed most independent telephone companies in the 1880s, Brookings notched a place for itself in the early history of telephony. It was also to achieve the distinction of being one of only six city-owned telephone companies in the nation. Three in South Dakota – Brookings, Beresford and Faith – are still operating. The others are in Brainerd, Minn., and Anchorage and Fairbanks, Alaska. Bell Telephone owned the Beresford exchange for a short time, but both the Beresford and Faith exchanges were established after the Bell dragnet had put most independent telephone companies out of business.

Under Zietlow's guidance, the Brookings exchange continued to grow. In its second year it had 168 subscribers, a number that would increase when the ground thawed and poles could be installed. When stockholders met in May the secretary reported 191 phones with a switchboard to accommodate 100. It was obvious that the business was outgrowing its facilities, and stockholders voted to spend $2,500 to rebuild and enlarge the plant and erect a fireproof

The Brookings telephone staff, appropriately solemn (as fashion dictated in that era), posed for a photo in 1908. Front row, from left, Ella Atkinson; Birdie Erickson; R.E. Rebman, manager; Genevieve Prowse; and Birdella McKnight. Back row from left, R. Hollenback; Lula Marvin; Charles Shea, who became manager in 1911; Mildred Davis; Ward Waltz; and Ora Peterson.

office building. Board directors, A.W. Hyde, president; R.F. Kerr, vice president; Geo. P. Sexauer, secretary; Horace Fishback, treasurer; and J.L.W. Zietlow were elected. Again, no dividend was declared.

Meanwhile, the activities in Brookings were not going unnoted by neighboring Sioux Falls. The following, reprinted from the Sioux Falls *Argus Leader,* appeared in the *Press:* "Brookings has achieved a proud eminence as the city indulging most extensively in municipal ownership of public utilities. It has already made a success of a municipal electric lighting plant and has just voted $50,000 in bonds for city waterworks. Now it proposes to go further than any town in the state and put in a municipal telephone system. The other towns of the state will keep their eye on Brookings. If her experiment wins, and there is little doubt of it, the others will follow."

The *Press,* probably in an effort to keep Zietlow and local stockholders unprovoked, followed with this explanation: "The above is correct except regarding the telephone exchange, which is owned by a local stock company. Brookings has found municipal ownership profitable and satisfactory, and may some day purchase the telephone exchange as provided by the franchise. But it is likely that a heating plant designed to heat the business houses with the exhaust steam from the light and water plants, will be established before the purchase of the telephone is seriously contemplated. The spirit of municipal ownership is actuated in Brookings by a desire to secure public conveniences which we need rather than to monopolize those already in satisfactory operation through private enterprise."

AGITATION for municipal ownership started in 1900, but it was 1902 before things heated up. The *Press* came out strongly against it.

> Some of the people of the city think the city ought to own the local telephone plant, and a petition to the city council, praying that action to that end be taken, is being circulated. From the amount of business ability exhibited by the city in conduct of the municipal enterprises already launched we should say that it would be an excellent idea if no more rat holes were opened immediately. The telephone plant may be a good thing under its present management, but it wouldn't be if it was managed on the municipal ownership plan. (11/27/02)

The rival newspaper, *Brookings Register,* took an opposite stand, to which the *Press* responded.

> So far as we are interested in the telephone plant we had just as soon sell, and are not kicking on that account, but as a tax payer of the city, we are opposed

1902 - News

The Brookings Telephone Co., realizing that the phone lines have been more or less disturbed through the month of October and that they will be some in November, have decided to charge all subscribers for one month only for the two months and collect same Dec. 1. - A. W. Hyde, Pres., Geo. P. Sexauer, Sec.

Brookings Press, 10/30/02

The new telephone plant is about completed, and it is the present plan to move the office into the new building Saturday. The lines on the business phones will have to be changed over yet, and it is likely that there will be no service tomorrow while this work is being done.

Brookings Press, 12/4/02

to the scheme, and if the city buys the telephone plant the people will be sorry for it. There is not a municipal telephone plant in the world. Municipal ownership is only useful in providing the people with conveniences which private capital cannot handle, and will not install. (3/26/03)

Charles Shea and R. Hollenback balance on the high wires at 5th Avenue and 4th Street. Photo taken in 1908.

Former Mayor Hyde, who had earlier vetoed the first effort to get a telephone company in Brookings and was now president of the local telephone board, added his voice to those protesting city ownership. In an open letter to Brookings residents, he pointed out that "not a single city or town in the United States" owned its own telephone plant and asked, "Is Brookings to make the first experiment, handicapped with debt as she is? It is not time to buy the plant, if ever that time shall come. The subject well studied will probably show that while private capital will make some money, public capital managed by municipal officers without pay and subject to political uncertainty is a very great uncertainty."

Zietlow, too, was concerned about the possibility of the city exercising its option. He provided a copy of a letter from an attorney, whose opinion he had sought about the legality of city ownership. It was accompanied by a letter from C.P. Wainman, general manager of the Dakota Central Telephone Lines. Based on the attorney's opinion, Wainman wrote, "I do not think that there is any question but that the City of Brookings would be exceeding its powers if it undertook to purchase, install, or operate a telephone exchange."

Despite warnings about the folly and illegality of municipal ownership, a petition signed by more than 200 voters was presented to the city council. The voters went to the polls in April and by more than a two-thirds majority voted in favor of issuing bonds, not to exceed $18,000, to erect a municipal telephone system. This mandated purchasing Dakota Central or establishing a new city-owned system. Mayor John J. Jenkins appointed city engineer E.G. Davis, and aldermen E.K. Eyerly and W.C. Caldwell to negotiate with Dakota Central. If the city could not buy the plant at a satisfactory price it intended to build.

By May, $18,000 was agreed upon. The city was to receive income and assume risks of ownership on June 1, but legal ownership was contingent on the $18,000 payment. In July, Jenkins announced that a committee, headed by Eyerly, would run the plant, fix rates, hire and fire.

Charlie Heston was hired as temporary manager. Living quarters in the rear rooms of the building were to be transformed into council chambers and offices for city officials.

The state's commissioner of school and public lands arrived promptly to solicit bonds on behalf of the state. Things moved rapidly, and bonds were soon purchased by John Alton, Brookings County auditor, for 5 percent.

The city started immediately to build a cement walk in front of the building and announced that poles in front of the offices would be painted. Meanwhile, money from the bond sale was available, and the city paid Dakota Central $18,018 early in July to complete formal transfer of the plant.

By August 1903, the city issued a phone book, eight pages in "convenient shape and form." The Brookings Furniture Co. and the Model Clothing Store were the two advertisers.

FIRST PERMANENT MANAGER of the telephone exchange was hired in September 1903. C.H. Kight obviously was a mistake, as a year later he departed abruptly, leaving a number of outstanding bills. One accomplishment of his short tenure: morning service, from 4:15 to 5 a.m., to accommodate those who wanted information about early morning trains.

The Brookings Press, never a proponent of municipal ownership, continued its skepticism. "The telephone plant is made to show a profit of nearly $200 per month since the city took possession of the business, but an analysis of the figures fails to support this contention."

LONG DISTANCE SERVICE was growing along with local. Except for the extreme southeastern portion of the state, long distance lines were owned by Dakota Central Telephone Lines Co. Zietlow had connected his lines to those of Tri State Telephone, which in turn, connected to eastern states. In August of 1898 Dakota Central Lines was formed and started constructing toll lines to towns south and west of Aberdeen, including Brookings. Dakota Central Lines Telephone Co. absorbed many established telephone companies including Central Dakota Telephone Co. In 1904 the various long distance companies were consolidated into Dakota Central Telephone Co.

In the early years of long distance, the operator was located in Volga. At its best, service was not too reliable. And it didn't help matters much when in April 1905, Dakota Central announced a rate reduction of 5 cents. For many patrons, the reduction did not compensate for what was perceived as poor service. Patrons complained, but Zeitlow was indifferent. The city had asked him to put operators in Brookings for long distance work. He was reported as saying he had more

1903 — News

City election is approaching and the city ownership of the telephone plant—to many citizens—seems to be the paramount issue. As president of the telephone company and as a small stock holder, I wish our people to know that whenever the city is ready and able to buy this plant, the company will transfer its interests to the city upon the terms agreed to in the franchise. I wish, however, as a private citizen and taxpayer to express my conviction that the city might far better use its funds and credit in extending the water supply to those people not now accommodated and desiring such water privileges, also in increasing electric lights income, and in creating an additional accommodation of real economic value in furnishing heat to school, court house, church and business buildings. These necessities already in hand draw heavily on the city's finances, calling for every dollar the city can raise, and I feel sure that every dollar put into the telephone plant means a dollar short on these other improvements. **—A.W. Hyde**

Brookings Press, 4/2/03

Telephone poles were still novelty enough to be desirable props for photos in the early years of telephone. Someone had penciled on the back of this photo "Brazt, Charley, Dutch and the Brookings Telephone Co. manager, 1908."

business than he could handle and he would never know the difference if Brookings were cut off entirely.

While long distance operation was never under municipal ownership, it was a part of the city's telephone office. Not only was long distance vital to patrons, for many years it spelled the difference between a balance in the black or the red. Careful financial practices contributed to the health of the telephone business, but long distance fees in the early years enabled the municipally owned company to stay afloat. Income from long distance service also reduced local telephone rates.

With the coming of radio in the 1920s, the telephone was thought to be less useful. Nevertheless, telephone service advanced, mainly through a wider use of long distance calls for distances up to 100 miles.

ELECTRICAL STORMS were hazardous for operators and equipment, but in the 1900s a newly invented lightning arrester minimized the danger. No longer was it necessary to close the central board during a storm. If lightning came in on the wire, the arrester unsoldered a heat-coil and grounded the current.

Electrical storms weren't the only hazard to telephone service. Temporary breaks in service also came from unexpected sources.

> While the large exhibit hall of the county fair was travelling down Main street last Friday night, on its way to its new location, it caught one of the electric light wires and broke it, throwing part of the city in darkness for nearly an hour. The greatest inconvenience was felt at the telephone exchange and the opera house, the operators at the former place being unable to see the numbers on the switch board. . . . It only takes a slight accident like that to remind us of what the conveniences of modern times really mean, and what a sorry plight we should be in if they were cut off permanently. (*Press*, 9/26/07)

The telephone system was growing and in 1908 a 350-line Stromberg-Carlson common battery cord switchboard was added. That year the directory listed 566 city and 288 rural numbers. A year later, city customers totaled 574. Rates were $2.50 for business, $1 for party-line residences, $1.50 for single line.

Six years after bonds had been issued to buy the company, the city took up half of them. The *Press*, abandoning the gloom it earlier espoused, sang the praises of the city-owned telephone department, mistakenly shaving two years off the repayment time.

> As an evidence that municipal ownership has paid, and is paying big, it may be stated that on Friday the city treasurer took up $9,000 worth of the bonds against the telephone plant. That this has been done inside of four

From 'Say, Hello!' to city-owned telephone exchange

CSS. HOME PRINT.

NUMBER 40.

for Commissioner.

"SAY, HELLO!"

The City Fathers Grant a Telephone Franchise to D. H. Campbell, For a Local Exchange.

A Canvass of the City Will Be Made At Once and If Enough Phones Are Pledged Work Will Begin.

At the last meeting of the city council an ordinance was passed granting a franchise to Dyar H. Compbell, authorizing him to construct and maintain on the streets of Brookings wires and poles for a telephone exchange.

In an interview with Mr. Campbell we learned that it was his intention to immediately canvass the town for subscribers for telephones, and in case fifty or more patrons could be secured the work on the exchange would be commenced at once. As soon as the success of the enterprise is assured a stock company will be organized, and capital thus secured to carry on the work. This company will be confined entirely to local capital.

Last spring the town was canvassed by the representative of an eastern telephone company, and fifty-six instruments were subscribed for. This shows that the people of Brookings understand the advantages of a telephone system and would give it sufficient patronage to maintain a profitable and successful exchange. This company would have put in an exchange had it been able to secure a franchise from the city. The stumbling block was its refusal to supply the city hall with an instrument free of charge, which concession has been made by Mr. Campbell.

CITY BUYS TELEPHONE EXCHANGE

Negotiations Completed and the Plant Will be Turned Over June First.

The committee of and representing the city council and the officers of the telephone company have reached an agreement in regard to the terms of sale of the plant to the city, and the plant will be turned over to the municipality on the first of June.

The price agreed upon for the plant is $15,000, and a deed to the property will be made to the city as soon as the bonds are sold, and the money paid over to the telephone company. While the telephone company holds and controls the exchange until this payment is made the city takes the income and assumes all risk of ownership after June first.

The bonds will be sold to the state in all probability. Hon. Gus. Bach, the commissioner of school and public lands was here Tuesday to solicit the bonds on behalf of the state, and will be here again Monday night to meet with the council and close the deal. Unless there is some unlooked for hitch, the bonds will be cashed soon and the final settlement made within a few days. The contract with the city provides that in case the money cannot be secured before the first of July that the city will pay interest on the purchase price from that date until the money is paid over.

The city immediately set to work to carry out the improvements begun by the company, and have built a cement walk in front of the exchange office. The poles will be painted and the plant finished in first class shape.

May 28, 1903

Forty-seven years of telephone service

Only "a cog in the wheel" is how Charles D. Shea of Brookings describes himself.

And for 47 years he was manager of the Brookings municipal telephone exchange.

Retiring May 1, 1955, he started his career with the exchange in the early 1900s as a repairman, using a bicycle and a two-wheeled car for a "trouble wagon."

But Brookings residents considered Shea more than "a cog in the wheel" during his many year of service to the city.

Dedicated to his work, he saw the exchange grow from a comparatively small system to a large concern.

Observing the old equipment and pointing out that a new building was badly needed, Shea commented as his retirement neared, "This job needs a younger man. Eventually we're going to have to go dial, and this is probably as good a time as any to get a new man in here."

And less than a year later Shea retired.

Brookings Register, April 16, 1958

Charles Shea

A Brookings legend in telephone business

Once Charlie had the opportunity for a terrific buy on cable. The cost was $5,000 and that was a lot of money in those days. The commission turned him down, and he left the meeting very disturbed. It happened that cable went sky high, and they had to pay double. It taught the commission a lesson. They learned they had to listen to an honest manager that you could trust.

—Charles Chester

Chas. Shea Entertains 32 at 20th Annual St. Patrick's Party—

Thirty-two, employes of the city telephone office and friends, were guests of Charles Shea, plant superintendent, and Mrs. Shea, at the twentieth annual St. Patrick's party at the operators rest room Saturday afternoon. Mrs. Shea, with Charley's assistance, prepared the lunch, which consisted of delicious sandwiches, pumpkin pie and whipped cream, and coffee. St. Patrick's favors and decorations predominated.

March 21, 1935

years speaks volumes for the efficiency and care with which the plant has been managed. Practically the entire plant is new, much of it having been rebuilt in the time stated. (4/22/09)

TRIAL AND ERROR formed the basis for many company decisions. In September 1910, it was decided that bills would not be sent to customers; instead, patrons were expected to show up at the city treasurer office before the 10th of each month to pay. The company manager reasoned that this would save $125 each year on postage. A patron was to be disconnected if his bill was unpaid on the 10th, and a $3 penalty was to be assessed for restoring service. By January 1911, city officials announced they had gone back to the old way of collecting for water, light, power and telephone rent, with the city auditor once more sending out monthly statements.

ALL WIRING WAS AERIAL when Charles Shea became manager in 1911. He described the system.

"Every speck of the plant (a Common Return system) was aerial and all open wire—No. 14 mostly, with the exception of about 500 feet of 100 pair cable extending north from the office to the alley at Brookota Hall then east to the west side of the school grounds in front of Brookota Hall. From the end of this cable at the school grounds, wires went south and north. Four 12-pin cross arms of wire went south as far as the alley back of the light plant then east right through the court house yards. Underground fiber ducts were placed in concrete across the court house yard when the new court house was built, and later a cable was pulled into one of these ducts. This was the first underground cable in Brookings.

"The cable pole in front of the telephone office on 4th Street was a 50-foot pole with eight 12-pin cross arms on it loaded with wire. Lines going south and north from this pole. All poles were from 40 to 50 feet high until you got away out in the residential district. The idea in those days was to have the poles long enough so you could keep adding these cross arms as lines were needed. This system was just another headache when the wind blew the wires would swing and cross up. In the summer, the heat would slack the wires and in the winter the cold would pull them too tight. The frost and sleet would bother in winter and the lightning and wind again in the summer. It wasn't long until cable was developed to take the place of these open wires.

"As for installing a phone, first you got your phone ready in the basement, all the wire and materials you thought you would need. Our means of going out to

1915 — News

Ordinance Number 43

Section 168. Rates. The following monthly rental shall be charged for the use of telephone instruments: Business phone, $2.50; Residence phone, wall instrument, $1.00; Residence phone, desk instrument, $1.25. Where the same person, firm or corporation takes more than one telephone instrument in the same story of any building and only one ring is used for both or all instruments and only one name appears in the directory an additional charge of fifty cents per month shall be made for each additional instrument. And where such additional instruments have separate rings or there are additional names in the directory—an additional charge of one dollar per month shall be made for each additional instrument. Where more than one person, firm or corporation jointly rent or use any telephone instrument—an additional charge of one dollar per month, if a business phone, or fifty cents per month, if a resident phone, shall be made for each additional person, firm or corporation— renting or using such instrument.

—H.B. Mathews, Mayor

News - 1917

Copy for the new telephone directory goes to print October 20. Hand in all changes in street addresses, names, new number of street, addresses you will move to and all corrections. Phone Chief Operator, Tel. No. 400, Manager 200. Do it now!

Brookings Press 9/11/17

install a phone was a two-wheel cart; you could pull it or push it, take your choice. In winter, a sled was used and in summer a bicycle was used for trouble. A line in trouble in those days was cleared of enough of the trouble so that the light wouldn't burn on the switchboard and that was as much as could be done as there was no way to test a line to see if it was dry or grounded. As to installing phones if you had more material than the cart would haul, Joe Tree Dray would be called to haul the extra stuff. You could make a guess as to the time when you thought you would be finished and have him drive back that way. Arriving at the place where the phone was to be installed, the Mrs. would be asked where she would like the phone located. Two wires were run from there to the outside of the house. Here two wood brackets would be spiked to the corner of the house and about 70 feet of No. 14 iron wire covered with weather proof (this was to take the hum off the wires) and more wire was spliced to the end of these and the line wire went up on the cross arm on whatever line the phone was to be on; the other wire went to this common return that was a large copper wire and grounded at the phone office.

"At times an electric light wire would get down on this return wire and ring all the telephones in that part of town. This same system of outside plant was operated in this way until 1913. At this time several blocks of fiber ducts were installed in concrete, 11 manholes so that cable could be pulled in and out. One 300-pair cable was started east, one 150-pair south and 150 west. Lines where possible were made fully metallic—this was two wires from the office to your phone. Before the paving went in on Main Avenue, six blocks more of fiber conduit, in concrete, were installed; eight manholes and later on the cable was pulled into these."

From 1910 to 1915, telephone employees erected new poles, moved poles from main streets to alleys, dug trenches for a new conduit system to replace much of the overhead wiring, installed a new switchboard in the central office, and repaired the damage to wires struck by lightning. In 1917 more cable was installed and enough aerial of the smaller sizes to make all lines fully metallic to all phones.

In 1915, a hint of the financial success the municipal telephone exchange was to achieve came in an announcement that $5,000 was being transferred from the telephone fund to the electricity fund. It was the first of many transfers to other departments over the years. That the cumulative total would one day be in the millions was probably beyond anyone's most optimistic projection.

A RURAL TELEPHONE SYSTEM, independent of Brookings, started in the 1900s. Thompson, Caldwell & Wilson Rural Telephone Co. established a service that became Brookings County Telephone Co., then Brookings Lake Telephone, then Interstate Telecommunications. The company owned several miles of lines within the city limits, over which they reached the Brookings central office. Through the years this arrangement was questioned. By 1919, the Brookings Commerical Club had appointed C.O. Trygstad, E.H. Beatty and R.A. Turner to find ways to improve rural and long distance service.

> The Commercial Club has started a movement for better telephone service for the city—both in the rural and long distance. At present the rural service is only usable by payment of a 15-cent fee for each call, and is practically of no more use to Brookings than so many long-distance stations. The city telephone plant is owned by the municipality, and the rural line is owned by a private company. The contract has been too liberal on the city's part. City phone subscribers should be entitled to service over the rural lines without additional expense, as they are in nearly every place in the middle west.
>
> In regard to the long-distance telephone service—it is now necessary in calling any of the neighboring cities to first get connection with Volga, and this service has been very annoyingly slow and unsatisfactory—"bum" is the brief manner most patrons describe it. An effort will be made to have a long-distance central established at Brookings for this district. (*Press,* 6/19/19)

Almost a year later, the city bought the rural lines, their value determined by a committee composed of Councilman I.B. Johnson, L.E. Rowe of the rural company and a third man chosen by the two.

EARLY TELEPHONE MANAGERS came and went rapidly. In its first eight years, the Brookings Telephone Co. had four managers. But in the next 45, it had one. The first, C.H. Kight, was hired in October 1903 and left a year later. He was followed by Fred Lawshe, who resigned after nine months. In 1905, R.E. Rebman of Marinette, Wis, was named to the position. He served three years, two months. (The Rebman family, contrary to earlier announced plans that the space would be used for city offices, moved into the rooms at the rear of the telephone office.) P.W. Waltz followed Rebman, serving two years.

CHARLES SHEA was named manager in 1911, and the rapid turnover came to a halt. Shea had been a telephone serviceman for two years. His management continued on an even keel through almost half a century of change—years of improving equipment and upgrading techniques. After the early years, telephone

1919 — News

Science and experience have combined to determine the shape and size and material to be used in the proper construction of the most efficient mouthpiece.

This part of the telephone is designed to gather the sound waves of the voice, and will do so more efficiently when the lips of the person speaking are about half an inch from, and directly in front of it.

It is designed exactly for the purpose of most efficiency by accommodating the sounds from close proximity and excluding the distant sounds which would interfere with transmission. Did you ever stop to consider how you hear only the speaker and not the other sounds of the room in which the speaker is?

When speech is directed to the mouthpiece at an angle, or from a distance of from six inches to a foot away, the person at the other end of the line cannot hear your voice distinctly.

The best results wil be obtained by speaking directly into, and close up to, the mouthpiece in a clear, not-too-loud, tone of voice.

Brookings Press, 3/27/19

Long distance operators in the 1920s. Earphones clamped to their heads, they worked with a bewildering maze of cords. Their employer was Dakota Central Telephone Co.

earned an annual profit and turned over funds to the city's general fund every year.

Much of the history of the department and its reputation for excellence started with Shea. So deaf that he had to lip read, Shea, with superb managing skills and remarkable vision, succeeded in guiding a growing company through the many trials it faced. He was respected and well-liked by his employees and people in the community. Proud of his Irish heritage, he celebrated every St. Patrick's Day with a coffee hour, for which his wife baked and served pumpkin pies to his co-workers, main street business people and other friends.

Each year—and sometimes twice a year—a "badly needed" new directory was issued. An automatic switchboard was installed in 1917, and approval was given to Supt. Charles Shea to attend telephone conventions in Minneapolis and Chicago, with his car fare reimbursed.

In 1915 rates were $2.50 for business, $1.50 for residential. This rate went unchanged for 8 years. In 1923 business telephones were raised to $2.75, residential to $2. Another 26 years elapsed before an increase

came, this time in 1949, to $3.25 for business and $3 for residential.

By 1920, monthly wages of telephone operators ranged from $65 to $80. Shea received $150. These were a considerable leap from $22.50 to $40 for operators and $70 for Shea in 1911.

One of the truly surprising accomplishments of the department is its record over the years of maintaining relatively low telephone rental rates. A look at rates from 1908 to 1991 reveals modest increases, especially compared to products and services in general.

All downtown telephone and electric light poles on business streets were moved to alleys or underground by 1921, making streets appear wider and less cluttered. More than a thousand phone customers made an average of 6,631 local calls daily, 1,864 rural calls, 149 long distance calls, 125 information calls, and 200 calls for correct time. Each switchboard operator averaged nearly 500 calls an hour. A Western Electric common battery switchboard, purchased in 1916, and a Stromberg-Carlson switchboard, added in 1920, handled the calls.

During the early years, officials of the company were alert to opportunities to expand their knowledge of telephony—a pattern that has continued throughout the years. Struggling to stay abreast of rapidly changing technology, they met with others around the state. Brookings was a member of the South Dakota Telephone Association, and officials sometimes hosted telephone representatives to discuss mutual problems in management and operation.

By 1925 plans were in place to remodel the telephone building by adding a second story and a one-story addition at the rear. A ladies' restroom was built on the west side of the building for free public use and a bookkeeper's office and two long distance booths on

The telephone exchange as it appeared in the 1930s. The second story was added in 1925. The public restroom entrance is at the left corner of the building.

Telephone directories from 1910 and 1918. The earlier book had an index. Both were about 8 1/2 by 5 1/2 inches.

Wires secured to wooden beams caused many a headache for repairmen before the telephone department converted to dial. Knute Knudsen and Earl Bain check the system in the 1940s.

the east side. Switchboard operators were housed on the second floor. Relay racks, cables, equipment, and work and store rooms were in the rear of the main building on the ground floor along with an office for the local manager and the farm line manager. The total cost: $15,000.

An open house Feb. 4-5, 1927, attracted 500 visitors. A representative of the company installing the new Kellogg switchboard, telephone department personnel and commissioner Frank Kremer were on hand to answer questions. Prizes—subscriptions to the *Press* and *Register* and boxes of candy—were offered to visitors guessing nearest to the 8,261 local calls answered from 8 a.m. to 8 p.m. on an average day.

TELEPHONE SERVICE in the '30s was considered exceptional. Brookings subscribers seemed well satisfied with municipal ownership. On his quarter century anniversary with the telephone department, Shea received lavish praise from the *Press*.

> Charles Shea, manager of the Brookings city municipal telephone plant and service, completed his first 25 years of service with the city October 1, 1933. During all these years Mr. Shea has given the city faithful and efficient service, and it is doubtful if there are many telephone plants in the country where the service has been so

Laying cable down Fourth Street in the 1940s. The building in the background is Kjellsen Chevrolet and Cadillac, an unoccupied building when this history was written in 1990.

> uniformly first class and so free from suspensions from various causes, as has the service under Mr. Shea's management. . . . There is every indication that Mr. Shea will serve another 25 years, as he is the right man for the job, and is among the most popular men in the city. (*Press*, 9/5/33)

During the depression in the 1930s, however, many discontinued their telephones. The percentage with telephones in their homes dropped from 65 percent to 40 percent. As Brookings came out of the depression, the number with telephones again rose.

MORE THAN 90 PERCENT of aerial cable had been replaced with cable buried in the ground by 1940. Seven different cables left the office for the city, plus cable for the farm lines and for long distance. Underground cable left the telephone office and came out in the heating tunnel at SDSC. From there it went to a large number of buildings and to phones in rooms. By 1940 the largest city cable was 300 pair; others went down to 50 pair. In all,1,600 terminated on the main frame. Thirty-five rural lines and 24 toll lines came into the office. In 1951, underground telephone cable was laid to take care of all the north and southeastern parts of the telephone system.

By the time Shea retired in 1955, all the aerial cable leaving the telephone office had been replaced by buried cable. Brookings was far ahead of most telephone exchanges in the conversion to underground cable. The process, started in earnest in 1950, continued through the years. Not all problems, however, went underground with the buried cable. Rodents still gnawed on lines, and humans unintentionally caused damage. One of the major problems of outside crews—and one that never leaves—is the severing of cables by contractors, builders and individuals during construction of private and business facilities.

> The old "common return system" necessitating a general ring on all instruments on any line, has been replaced by individual wiring connecting every telephone with the main office. Cables and wires have been moved underground, eliminating most of the overhead wiring and street corner poles adding more dependable and efficient service, besides getting rid of the usual detraction from city streets. (*Press*, 4/17/47)

A request by Bell to eliminate its aerial toll wire route and install underground cable in Brookings was granted in August 1953.

IMPROVEMENTS SLOWED DOWN during the war years, but in 1945, $18,000 was allocated to "bring the plant up to tip-top efficiency in its facilities to

Knute Knudsen worked for the telephone department for 14 years, starting in 1945. Much of his time was spent repairing telephones.

A canvas tent offered a measure of protection from the elements when cable repairs were made in the winter. This was a familiar sight in the 1940s and '50s.

meet the steadily growing volume of business in postwar days." A report in the Feb. 15, 1945, issue of the *Press* revealed that improvements, restricted because of the war, would be worked out over a five-year period. The number of telephones reached 2,088, and service started to improve.

In the '50s, a Fargo, N.D., engineering firm, hired by the city, reported favorably on telephone service:

> "The observations made during the field inventory indicate the general condition of the plant reflected a high degree of maintenance practice.
>
> "The improvements and extensions to the telephone plant made over a period of years, along with maintaining telephone service, can, we feel, be attributed to the economical and efficient management of C.D. Shea. His interest, loyalty and service to the city and the cooperation we received from him in preparing these studies are commendable." —L.E. Armfield of the engineering company.
>
> The survey was ordered by the city commission some time ago as a basis for submitting a request for an increase in rates or for the basis for a sale if the people of the city decide on such a move. (*Brookings Register*, 12/23/53)

Mayor Cheever called the report "exhaustive" and detailed. The depreciated value of Brookings telephone was placed at $231,578.44.

Telephone manager Charlie Shea, right, in the plant with employees, August 1930.

TELEPHONE OPERATORS

"HELLO GIRLS" AND "MA BELL'S GIRLS" were the telephone department to the public for many years. The telephone has always been a personal instrument, and in the early years, this had a special meaning.

Local operators at the switchboard in 1929. They worked in an uncomfortably warm room in the summer. Windows could not be opened for a breath of air; dust affected the switchboard. Efficiently functioning equipment was far more important than operator comfort.

The telephone operator was expected to have answers—on demand—for all questions.

A "Hello Girl" was the way Jennie Downing was identified when she was hired in 1899 as the first operator for the new Brookings Telephone Co.

Miss Downing had been the telephone operator for Dakota Central Telephone Lines. Hired by the city, she was given the official title of First Chief Operator and paid $30 a month. The local newspaper praised the selection and predicted that patrons would find her obliging and competent. Apparently she lived up to her advance billing, for her efficiency and cooperation were publicly praised from time to time. Two additional operators, Byrdice Keynon and Mrs. James Brooke, were paid $25 monthly. C.E. Heston, son of the college president, and Van D. Fishback, son of a local banker, were the other two employees.

While the salary must have been considered adequate in 1903, by 1907 two operators had left to accept jobs with Dakota Central at more money. Another operator quit at the same time, leaving just two at the switches. Rebman was forced to fill in at the switchboard until replacements were hired. Comment in the *Brookings Press* was ". . . when two or three girls

which have been secured are broken in everything will be serene again." Commissioners believed Zietlow had wooed Brookings' operators away, and there was some resentment.

In the early years, a patron ringing into the central office gave the operator the number of the party being called. The operator knew the required number of rings. In 1906, the procedure was changed with the number of rings indicated by colors. Instead of calling for "25," the patron asked for "red-25," which indicated one ring. Different colors indicated two, three and four rings. Patrons were assured that the scheme was similar to that used in large city exchanges. Colors were changed to letters preceding numbers by 1912, and in the 1927 directory, letters were placed after the numbers to speed up service. The letters W, L, R and K were used.

In 1926, a lounge was furnished to give operators a place to relax when they weren't at the board. The women worked seven-day weeks with one day off each month. They had 15-minute breaks every two to three hours.

The new directory listed some 500 Brookings patrons, plus all rural exchanges operated by Thompson, Caldwell & Wilson. Operators had memorized many of the local numbers and responded quickly when asked for a number. Telephone directories, however, encouraged customers to know their number before lifting the receiver.

Since telephones were unfamiliar instruments in the early years, the company issued operating instructions, advising that for best quality the speaker's lips should be about a half inch from, and directly in front of, the mouthpiece. The mouthpiece was on the front of the telephone box, which was mounted on the wall, usually in the kitchen. The earphone was attached by a cord about two feet long, on the side of the box. Patrons were asked to speak in a clear, not-too-loud voice directly into the mouthpiece. When necessary, instruction in the use of the telephone was a part of the operator's job.

Protection of equipment took precedent over comfort of operators. Shea frowned on opening windows, located on the building's north side only, because dust, dirt or moisture affected the quality of reception. Sometimes an operator, suffering from the heat, opened a second floor window surreptitiously.

Operators were not allowed drinking water while they were working the boards. A spilled glass of water could cause havoc with the equipment. In the summer, in a closed room, a few fans provided the only air movement. It is easy to imagine how uncomfortable operators were as they worked at top speed at a job that required a high degree of physical effort. For those who tried to chew a stick of gum to relieve a dry mouth as they answered, "Number, please," and responded, "Thank you," up to 400 or more times each hour, there could be a sudden reprimand. If Shea appeared and caught an operator chewing gum, he would hold out his hand and ask that the gum be deposited. The women complied.

A DESCRIPTION of operator responsibilities, prepared by Shea, appeared in the Jan. 13, 1927, issue of the *Press*. It described in detail the job of "Hello Girls."

"The day operators at the Brookings Telephone Company's switchboard average nearly 500 calls an hour apiece, according to a long series of checks kept on their work by a little automatic machine installed at the desk of the chief operator. That is on average days. On big days, like Hobo Day, for instance, the count is much greater. Last Hobo Day a total of almost 12,000 calls was answered. The average day brings in from 8,000 to 9,000 calls to the city switchboard. Each girl averages one call about every seven seconds while she is on duty.

"Two plugs attached to flexible cords have to be put in place for every call that comes in, one when the caller lifts the receiver off the hook and the other for the "callee" after the operator has learned the number desired. The first plug has to be put in, the operator has to say 'Number, please,' catch the number,

1921 – News

Have you ever wondered why the line was busy when you were in a hurry to put in a telephone call? Have you any idea how many telephone calls "Central" answers per hour? The city telephone operators last week kept a record of telephone calls from 8:00 a.m. to 8:00 p.m. for a period of five days and here are the results. A total of 33,157 local calls were answered, an average of 6,631 per day. This amounts to 270 local calls answered by each operator every hour for 12 hours each day. Try answering five telephone calls a minute some time when you feel ambitious. But these are just the local calls. There were a total of 9,320 calls on farm lines, an average of 1,864 per day or 155 answered by each operator per hour. Then in addition there were 739 completed long distance calls, an average of 148 per day, or 15 completed by each operator per hour. A little extra pastime for the telephone office was an average of 125 information calls answered each day. Besides this there was an average of 200 calls for correct time each day.

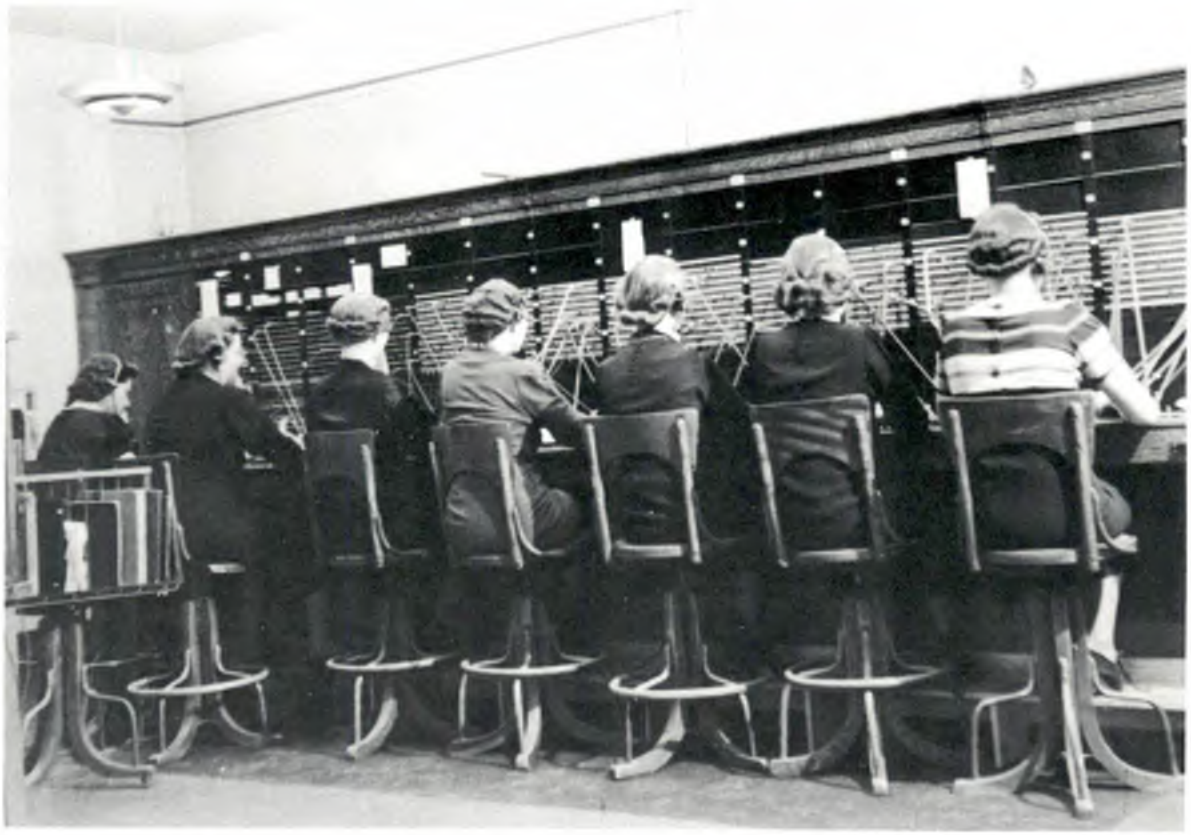
Brookings Press 12/1/21

report it back to the patron, place the second plug, then press a button to start the bell ringing, all in the space of seven seconds in a busy time. Between times she is pulling out the used plugs and clearing the board for more calls. The girls have to keep this up for three hours at a stretch.

"An observer watching the girls at work is astonished that there are so few mistakes made. Their hands are going like lightning from one side of their space on the board to the other, putting in plugs, pulling out plugs, at a speed bewilderingly fast. The cords are crossed and crisscrossed and seemingly hopelessly tangled up, but the operators know where everything goes. As the pianist knows the keys on a piano, the operators seem to know almost instinctively where the number desired is located, and they plug in the right place without an apparent fraction of a second's hesitation. They have to 'know their stuff' to give the efficient service that is a characteristic of the Brookings telephone system. Rush hours are from 9 to 11 in the forenoon, when every operator has to work at top speed.

"The city employs ten girls as operators. They work in shifts so that no girl works too long at a time. There is an operator on the board, sometimes three of them at a time, every minute during the 24 hours. In the daytime there is another girl for long distance work and another to handle the rural line calls.

The number of telephone employees had grown to 23 when they posed for a Christmas photo in 1939. In the front row were Zula Turner, Mary Burdett, Doris Bidleman and Eunice Warner; second row, Alice Wilson, Floyd Barton, Ernest Telkamp, Manager C.D. Shea, Herman Halvorson, Lorraine Braley, Dacotah Grimm and Lorraine Nelson (who later became the wife of Harold Sands, an early president of the Utility Board); third row, Delia Johnson, Gen McGlone, Fern Lange, Delores Lee, Myrtle Anderson, Lucille Johnson, Lila Aarstad and Verna Graves. Not pictured were Shirley Hickman, June Adamson and Velma Sheep.



Brookings telephone operators in the 1930s were closely supervised by Charlie Shea, manager. He strictly forbade gum or a glass of water at the switchboard. Gum might interfere with the operator's enunciation; water might be spilled on the switchboard. This photo, taken in 1938, demonstrates the concentration required of operators.

"The figures given above are entirely for the city system. The farm lines are conducted separately from the city lines as they are owned by the farmer patrons. The city system handles their calls for them, however. There are now approximately 1,400 city telephones on the big new switchboard recently installed, besides the farm line phones and the long distance equipment. The switchboard will accommodate a total of 6,000 local phones, however, so there is plenty of room for growth. The room containing the switchboard is large enough too, so that additional units can be installed, so the city probably will never outgrow the present capacity. [As Shea predicted, the city never did outgrow the room—but for entirely different reasons than he envisaged in 1927.]

"The new switchboard [Kellogg] is much more efficient in every way than the old one just discarded. It is much swifter in action and many more calls per hour can be handled. One feature of interest prevents the girl operators from 'listening in' on the talk of patrons. They don't have much time during the busy hours, anyway, but they couldn't if they desired without going to a great deal of trouble. When the second receiver is lifted off the hook it automatically breaks the connection through the operator's headpiece and the conversation is as exclusive as if the talkers were

Remembering

Charles Shea served 36 years as a fireman. It was said that when he arrived at the scene of a fire, he checked for telephones first and tried to get the instruments out of the building if there was danger of their being destroyed. Not only was he eager to protect telephone property, but at times, particularly during the war years, telephones were in short supply, and every instrument was precious.

in private, except on those lines where there are more than one telephone."

The operators were supervised by a chief operator whose major duty was to work out operator shifts. She was expected to anticipate times that would be the busiest and to be able to find someone quickly to work when an operator was sick. In addition, she relieved operators during rest periods and answered information calls. Among the most frequent information requests were those asking the time of day.

ALERTING VOLUNTEER FIREFIGHTERS was one of the operator's responsibilities from the first. In the early days, whoever got the fire call would call firemen directly. By 1927 the operator pressed a button which set off a loud alarm at the power plant. When a man on duty there heard the alarm, he activated the siren, usually within a few seconds after the alarm was phoned in. Each fireman had a telephone, and if the alarm came in at night, he called the operator. When he lifted his receiver, a red light showed on the switchboard. The operator gave preference to these calls, letting all other calls go as she informed firemen about a fire. In the daytime, firemen ran to city hall, where the fire truck was housed and where they got information from the city auditor, who had been informed by the telephone operator.

As a modest recognition of the role firemen play and an incentive to encourage volunteer participation, firemen were charged half-price for local telephone service. This custom began with city ownership and has continued through the years.

NORTHWESTERN BELL TELEPHONE purchased Dakota Central Telephone Co. in 1934 and operated it as a subsidiary until it took over from DCC in 1938. Bell installed a new three-operator position Western Electric switchboard and paid rent for floor space. Brookings Telephone received a commission on long distance calls. In 1942 the name Dakota Central was changed by circuit court order to Northwestern Bell Telephone Co. Bell operators ticketed, switched and rated toll calls for Sinai, Volga, Bruce, Brookings city and Brookings rural. Operators had direct access to Sioux Falls, De Smet, Arlington, Elkton, Volga, Sinai, Bruce, Watertown, Clear Lake, Toronto and Marshall, Minn. A phantom connection was available to Huron, Madison and White. Calls to other destinations were routed to Sioux Falls for connection. By 1950, Bell had added equipment until it had seven positions and 16 operators. When long distance was moved to Madison in July 1960, Eunice Colburn was the last long distance operator to leave. Mrs. Colburn, who

transferred from Bell Telephone Co. in Washington state, was a long distance operator in Brookings before she started a 30-year career in 1960 as a Brookings telephone department employee. During the two years before the long distance service left Brookings, she sat alone in the switchboard room on the 11 p.m. to 7 a.m. shift.

TELEPHONE OPERATORS were considered great sources of information from the very first. People called in with every conceivable question—how to make a salad, play a hand of bridge or spell a word. "Is the corner grocery still open?" "Is the band concert tonight?" or "I need to talk to that fellow who lives down on the corner of Sixth and Main." Operators "usually came up with answers," said Verna Graves, who was with the telephone department from 1928 to 1958. "If local doctors were going to be out of their office, they informed us so that we could inform patients," she said. Miss Graves was interviewed in her home in Brookings in 1990.

Operators learned also to recognize voices and often called customers by name. Lillian Halvorson Williams was a long distance chief operator who worked first in Bruce for 18 years with Dakota Central and then in De Smet for five years with Northwestern Bell before moving to the Brookings office in 1946, where she was long distance chief operator until the office closed in 1960. Mrs. Williams, interviewed in her home in Bruce in 1990, told of getting an emergency call about a drowning. The person placing the call did not give a name, but she was able to direct officers to the scene because she had recognized the voice of the caller.

As the number of telephone patrons grew, an information operator handled requests. And as requests grew, a chief information operator supervised several information operators. The information service was removed from Brookings in 1961, restored in 1977 and removed permanently in 1982.

Mrs. Williams explained the procedure used in placing long distance calls in her day. "The operator would 'trunk over'—let me explain," she said. "A light would come on the local board, and the local operator would answer by saying, 'Number, please.' The individual would say, 'I need to make a long distance call,' and the operator would say, 'Just a moment, please' and then insert a cord that switched the call from the local side to the long distance Northwestern Bell side of the room. When a call was to be made to a city like New York, the operator would ring Sioux Falls and ask for the lines going into New York," Mrs. Williams

1922 - News

In the new City Telephone Directory, just received from the Press job rooms, there are 1,245 city phones and 425 rural phones—giving subscribers use of of a total of 1,670 phones in the community. In the list of names the Jones, Brown and Smith families, so numerous in some sections of Uncle Sam's domain, do not appear with much strength—there being only one Jones in the city, none in the country, seven Smiths in the city and one in the country, and three Browns in the city and none in the rural list.

The Johnsons rank first in numerical superiority, there being 26 in the city and 7 in the rural list, besides a few names with the "t"—Johnston. Larsons and Olsons tie for second place.

Brookings Press, 1/10/22

1927 – News

The telephone building and equipment will be open to the public for inspection Friday and Saturday, February 4 and 5, according to Superintendent Charles Shea. Anyone wishing to visit the building at this time, can get an idea of the inside working conditions at the phone office each day of the year. The new Kellogg service switchboard contains some 16 features of which a number are automatic, and has been designed for economical operation and rapid, accurate service. Jay Houghtaling of the Kellogg company will be present to answer questions and he will be assisted by the city telephone department and commissioner Frank Kremer. Prizes will be offered to visitors at the phone office during the two days.

The rest room, which is 11 by 22, with a toilet 12 by 12, will also be open for inspection at this time. It is nicely equipped throughout and has already been in use for two weeks.

Brookings Press 2/3/27

said. "We could make overseas calls, too. If I remember right, we'd call into Sioux Falls and tell the operator that we needed an overseas operator, and she would connect us."

Mrs. Williams recalled that operators were drilled in a kind of code to avoid confusion with letters that could be mistaken for one another. "We all used the same examples, and we'd go through the alphabet saying, for example, 'b' as in boy. If you were placing a call to, say, Deerfield, Minn., you were taught to say Deerfield, 'd as in dog.' It was one of the requirements."

"We had the best group of operators on our Northwestern Bell board that they had in the state," Mrs. Williams said. "At the height of the season there would be 25 on the payroll to cover the different shifts. Then there was one night operator and our management was chief operator, assistant operator and clerk. Scheduling wasn't easy because at busy times of the day all positions at the board had to be covered. We scheduled operators according to when the business would be the heaviest and lightest."

The chief operator did all the hiring, but the assistant chief trained new operators. Many of the operators were wives of college students. "These women were putting their husbands through school," Mrs. Williams said.

Shea reported in 1940, that more than 9,000 calls passed through the local exchange every 24 hours. "The busiest time is between 9 a.m. and 10:30 a.m. each morning, when the housewife is ordering food for the midday meal," he said. "The next heaviest time is between 4:30 and 7 p.m. when the husband calls to find out what he was told to bring home at noon, or to tell his wife that he is not going to be home for dinner as he had a 'big business deal' on. Low ebb in the 'number, please' business is between the hours of 6 and 7 a.m. Not more than 20 to 30 calls are put in then. Two girls are on the board all the time with the exception of the night shift when only one is on duty. A good operator can handle up to 450 calls an hour, and we have had operators handle 478 calls in one hour. They don't do this right along, but can, should the occasion demand it. The average for an operator to handle is about 150 calls per hour. Friday, Feb. 10, 1939, during a blizzard, the office took care of 19,469 calls. Hobo Day calls will run about 15,000 calls."

Operators worked two to three hours at a stretch, then had a badly needed 15-minute rest period. They worked seven-day weeks with one day off each month. Usually they were assigned alternating shifts, one week early, the next late.

When telephone operators moved to the second floor of the telephone building in 1926, their comfort level improved greatly. There was a parlor with "handsome reed furniture," a restroom and a locker room. The city went to great expense and care to make things as comfortable as possible for the "Hello Girls," the *Press* reported. But the greatest improvement came in 1951 when the second floor was air-conditioned. Finally operators could work in comfort during the summer. Local operators worked on one side of the 23x24 room, long distance on the other. There were as many as 10 local operators by 1940, with three on duty at one time, and four to five long distance operators, with two on duty. All were females. Later, as the local switchboard was enlarged, the number of operators on both the local and long distance switchboards increased. By 1958, with dial telephones in place, all local operators were gone.

Manager Charles Shea hosted or was a guest at annual Christmas parties and other occasions when telephone operators gathered socially. This photo was taken at a party in the 1940s for Zula Turner, who is seated with Shea. Back row from left, Elsie Nielsen, Margaret Turner, Sadie Bortnem, (unidentified), Mae Shaw and Esther Ponto. Middle row, (unidentified), Verna Graves and (unidentified).

CAMARADERIE AMONG OPERATORS was recalled by the three former "Hello Girls."

"We used to have Christmas parties 'most every year, and we did a lot of things together. Here were two different telephone companies working in the same office, but we really got along well," Miss Graves said.

The only serious problem Mrs. Colburn recalled from early years was that long distance operators were paid more than local operators. In 1940, locals earned 40 cents hourly, long distance, 85 cents. The pay differential was a source of embarrassment to long distance operators because the discrepancy was so great, Mrs. Colburn said.

Mrs. Elmer Johnson, a 29-year telephone employee, handled the last local call on the old switchboards when the telephone system converted to dial in 1958. Seventeen local operators lost their jobs. Four stayed for about three weeks, to instruct telephone patrons in use of the new system and to verify cable pairing to a subscriber's new dial telephone. The company tried to find jobs in other businesses for as many as possible, and Charles O'Neill, who succeeded Shea as manager, said the company had been "very successful in that, thus offending as few people as possible."

While those in the telephone business "never knew what to expect the next day," Mrs. Colburn said, changes for operators usually were not major. Many related to regulations. "In the early years it never occurred to Brookings operators that the day would come when their services would no longer be needed. Operators felt—and rightfully so—that they were an integral part of the community. I really felt we were doing something really great. It was wonderful when we took a long distance call during the war and got

Remembering

There was a long-distance line that went up Sixth Street. I don't remember how they wired it, but there must have been 40 wires on two crossarms. We moved that over to Seventh Street. I got so tired I couldn't stand on the hook, so I crawled up on top of the wires and laid on them and did the tying. But I was sure I didn't have a piece of skin touching the wires because that's 160 volts and you could feel that if you got touched.

—Fritz Mailey

families together on the phone. People knew if they lifted their receiver, someone was going to be there. We were a lifeline for people. Children wanting to find their mommy. Maybe they didn't know where she worked, but the operator knew where that call was coming from and she knew where to find her. Of course, I think we were taken for granted—that we were always going to be there."

LONG DISTANCE OPERATORS struggled with mechanical problems. Static on the line was a major concern for long distance callers and operators alike. "Maybe you'd go through two or three different cities in order to get to your destination," Mrs. Colburn said. "We had a direct line to Huron, Sioux Falls, Aberdeen, Watertown and Madison, but to get to Rapid City, you had to go through Sioux Falls, and sometimes you were inadvertently disconnected or cut off before you had completed your conversation. 'I can't hear you' was an oft-repeated lament in the '40s. What a contrast to today's long distance calls. Fiber optic cable makes reception as clear as though you were talking to someone in the next room."

An operator had to be on her toes in the 1940s to take care of records. To time a call, Mrs. Colburn said, an operator inserted a long distance slip into a little clock on the desk. When the switchboard light came on to indicate the end of the call, the slip was again inserted into the clock to record the time. The accumulation of tickets each day was mailed in to the Sioux Falls office of Bell, then returned to Brookings for billing. "At that time there was a toll settlement which returned a portion of the charges for long distance calls to Brookings Telephone. Today a computer in Brookings handles all billing and reimburses U.S. West for its charges on long distance calls."

Operators in the early days consulted handbooks that told them how calls were to be charged—in-state, out-state, person to person, collect and so forth, and they were responsible for preparing the information about calls and forwarding it to Sioux Falls.

Lola Duff, chief information operator in 1980, said in an interview for the *Register*, that she and her co-workers handled "some 300" calls a week for information and another 12,000 to 14,000 for telephone numbers. Operators provided the same personal service they had given through the years, answering requests for time, and trying to answer all requests for miscellaneous information.

PUBLIC RESTROOM

A PUBLIC RESTROOM was maintained by the telephone company for many years. Miss Graves said in an interview in December 1990 that the fellows in the company were responsible for keeping it clean. "How they hated that job," she said. "You see it was right on the way to and from school and town, so the kids used it, and those from the country would bring their sack lunches down there at noon and eat. Mothers with their small children came in and sat there for hours at a time, waiting for their husbands to get through with business or whatever and come in to get them." In 1927 a news item in the *Press* indicated that the Civic League had, at some point, assumed responsibilities for the public lounge. The lounge finally closed in the 1940s.

TELEPHONE DIRECTORIES

EARLY TELEPHONE PATRONS had much to learn about the telephones hanging on their walls. The first directory, called a 'Patron's Book', was published in 1903. The earliest directory in existence, however, is a fragile 1908 copy preserved by the telephone department. It lists subscribers and provides numerous tips on how to use the telephone.

- Don't hang the receiver on the hook until you are through conversing with your party. Hanging the receiver on the hook disconnects you at the central office. When through talking, hang the receiver up properly. **(Large end down.)**

- Should you want the operator after the number is given, work the receiver hook up and down slowly FIVE or SIX times, keeping the receiver to the ear.

- Rings will be designated in the following manner: B two rings, R three rings, K four rings and F five rings.

- Limit the conversation with the operator answering you to giving the number wanted. Do not try to engage her in conversation, or ask her for information of any kind—it impedes the service and will cause her dismissal. The chief operator will be pleased to give you any information at her dispoal as well as on matters pertaining to the service.

- Always let business have preference over visiting. It is also understood that doctors or emergency calls have preference over all others. Never take the receiver off the hook to listen unless you are called. Please do this in courtesy to other subscribers and for the protection of your own service. It is impossible to ring any one on the line when a receiver is off the hook.

The 1928 telephone directory carried on the cover examples of the right and wrong way to use a telephone. Telephone reception, at its best was bad. Failure to speak directly into the telephone made it almost impossible for someone to hear the person on the other end of the line. The telephone department made every effort to help people adjust to this "new-fangled" device, carrying advice for its customers in each new directory.

Remembering

While those in the telephone business never knew what to expect the next day, changes for operators usually were not major. Many related to regulations. In the early years it never occurred to Brookings operators that the day would come when their services would no longer be needed. Operators felt—and rightfully so—that they were an integral part of the community. I really felt we were doing something really great. It was wonderful when we took a long distance call during the war and got families together on the phone. People knew if they lifted their receiver, someone was going to be there. We were a lifeline for people. Children wanting to find their mommy. Maybe they didn't know where she worked, but the operator knew where that call was coming from and she knew where to find her. Of course, I think we were taken for granted—that we were always going to be there.

—Eunice Colburn

Among the businesses listed in the 1909 directory, still listed in 1990, are Brookings County Abstract, Brookings Register; Cole's, Farmers Cooperative Co., First National Bank, Kendall's, Perkins Storage and Transfer Co., Rude's Funeral Home, Rude's Furniture, and Sexauer's.

Some early books had interesting twists. For example, lined note paper, much like a student's school pad, was interspersed with listings as a convenience for patrons in recording new numbers.

The books were small, approximately five by eight inches. Early advertising was boxed on the top or bottom of pages. Most merely listed the business name and number, using only a line or two.

As a presage to what was to come, a few larger ads appeared in the back of the book or on the inside or outside of the back cover. Brookings Hardware advertised a "One Minute Electric Washer that does your washings for 2 cents each. Ask those who use them. Phone 62." In another, the New Furniture Store advertised that undertaking was a specialty. "Calls answered day or night." Robert J. Beatty, advertised as a 'Licensed Embalmer,' store phone 3 and residence phones R-140 or R-280." One advertiser announced, "A SHOT GUN will not be needed to force collections if we print your business stationery."

The department used the introductory pages to provide information such as "Service will be furnished from 6 a.m. to 12 p.m. and special train service from 4:30 a.m. to 5:30 p.m. Outside these hours make none but emergency calls, fire, sickness, etc."

Early books were tabbed alphabetically, a superfluous convenience considering the relatively few numbers listed. Names of doctors and businesses were included in the alphabetical listing but in boldface type.

For many years the department pleaded with customers to talk into the transmitter. In 1917 it moved these reminders to the front cover: "Talk directly and distinctly into transmitter; Let us know when you move; Always hang up the receiver; Consult directory for numbers." By 1919 the list of admonitions had grown, but was still appearing on the cover.

Quality and volume of transmission continued as problems well into the 1960s.

By 1920, general advertising, with the business name only, gave way to a sales message, and the department started selling ad space on the front cover. The H.G. Williams Land Co. advertised on the cover in 1920-21 and the Roberts and Waltz General Hardware store in 1922. Among the early advertisers were Rude's Furniture and Undertaking, and Bartlings and Sellers.

In 1922, the inside cover carried advertising, and among the advertisers was Cole's. The store listed

groceries, ready-to-wear, dry goods and shoes. The Brookings Coffee Co. was another advertiser. Coal ads frequently appeared, offering Virginia lump, Montana roundup and Genuine Pocahontas briquets. In 1927 the first beauty shop ad appeared. On the front cover, Milady's Beauty Shoppe advertised permanent waving.

The 1927 book contained 44 pages. In 1928 the directory increased in size to 7 by 10 inches. It still emphasized the importance of speaking directly into the mouthpiece. The cover illustration portrayed a woman using the right way to talk into a telephone—looking straight ahead, mouth close to mouthpiece—and the wrong way—head turned away with too much space between the mouth and mouthpiece. A new feature—a list of city commissioners—appeared in the front pages along with their individual responsibilities. Directories were issued twice a year.

The first Yellow Pages section appeared in 1937, eight pages in the back of the book. It was yellow (but not as bright as today's Yellow Pages). Despite the increasing number of subscribers, the number of directory pages increased only slightly. The department kept the number down by decreasing the type size.

In 1945, 2,900 copies of the 40-page directory were issued to telephone users. The book contained 2,724 listings—1,825 in Brookings; 410 in the rural division; and 489 in the classified division.

By 1958 ads had moved to the Yellow Pages section, which now took 50 pages. A yellow band across the front cover announced, "Find it fast in the Yellow Pages of this directory." Also added were a brief history of Brookings and maps of the city and SDSC. Listings for Volga-Arlington and Sinai were added in 1959.

In 1962 the Yellow Pages increased to 72, but the space for Brookings patrons' listings remained the same. Arlington, Badger, Bruce, De Smet, Erwin, Hetland, Lake Preston, Sinai, Oldham and Volga were now included in separate sections.

By 1969, when directory size increased to 9 by 11, the information provided for customers had grown to include, in addition to a Brookings history and city and college maps; state area codes; bylaws of the Interstate Telecommunications Cooperative; calling card instructions; emergency and service call information; consumer information; consumer rights; a story to accompany the full-color photo selected for the cover; custom calling service; directory assistance; names, telephones and addresses of elected officials; emergency numbers; government listings; long distance information; long distance timetable; service and repair information; South Dakota State University and related listings; information on SDSU cultural entertainment; South Dakota area codes; SDSU sports information;

1948 — News

The number of telephones in Brookings has reached the all-time high of 2,564 this year, according to Charles Shea, manager of the city's telephone department.

Shea added that this figure does not include the 445 rural phones that are connected to the municipal switchboard. The rural phones are not owned by the city, but make their connections here, he said.

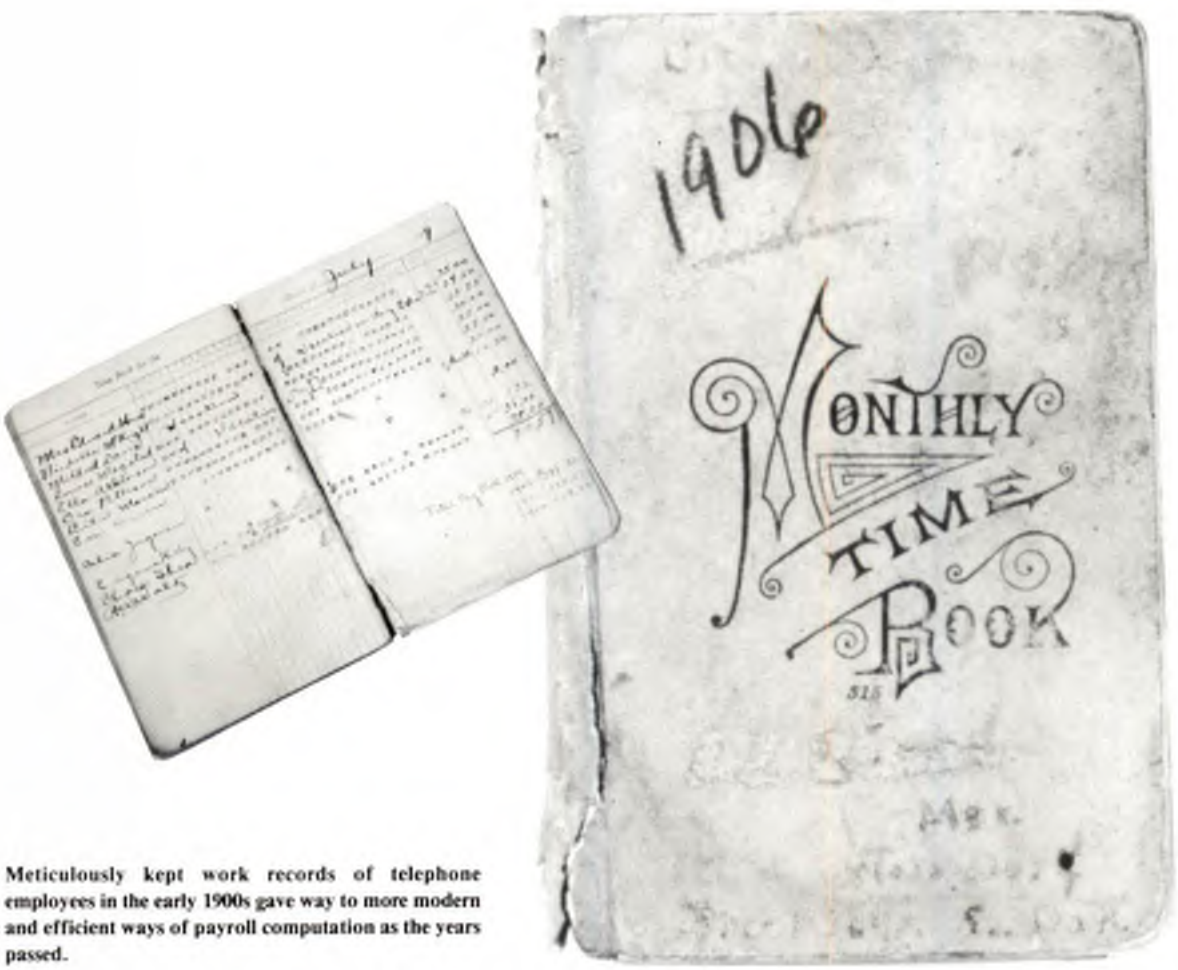
A new 40-page telephone directory has been issued by the department, it having been delivered Monday morning.

A rate boost of 50 cents a month for every phone user will go into effect Feb. 1. Rate increases compared with present monthly charges include single party business $2.25 to $3.25, two-party business $2.25 to $2.75, residence, single party wall phones, $2.00 to $2.50, residence single, line desk phones $2.25 to $2.75, residences four-party lines $1.25-$1.75 to $1.50 to $2.00.

Brookings Press 1/1/48

Brookings High School sports information; zip codes for South Dakota; and a 120-page Yellow Pages section.

Through the years, new directories were welcomed annually by eager telephone patrons. As their bulk and size grew, however, one group of people greeted them with considerably less enthusiasm: Mail carriers were lugging around their routes, in 1990, directories that averaged more than a quarter pound apiece.



Meticulously kept work records of telephone employees in the early 1900s gave way to more modern and efficient ways of payroll computation as the years passed.

Party line calls were "easy"— or so telephone department claimed

Instructions Make Party Line Call Easy

Here are the instructions for calling another party on your line with dial service.

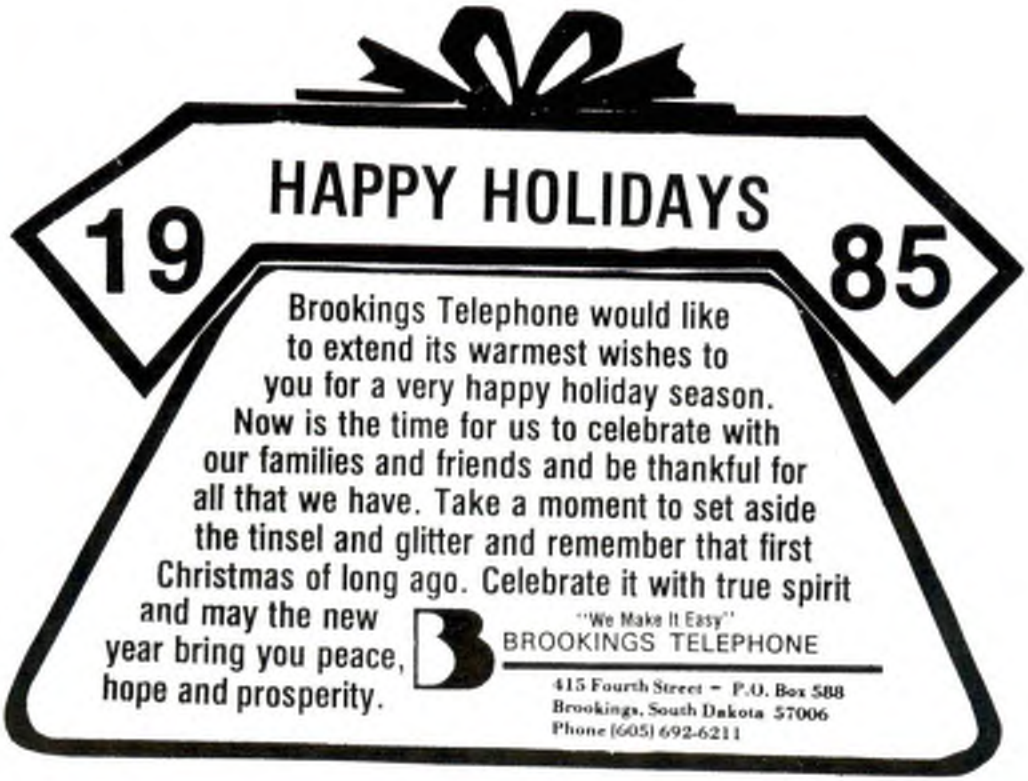
1. Lift receiver and listen for the dial tone.
2. Dial the digits 119-2 followed by the last four digits of the desired party's number.
3. When you hear the busy signal, replace the receiver. The called party's telephone will ring, yours will not. Wait a reasonable length of time (20 seconds) until the called party has had time to answer before picking up your receiver.

And if you are in a rural area and want to call a party on your line, follow these rules:

1. Do not dial the number listed in the directory.
2. Lift the receiver and listen for the dial tone.
3. Dial the digit "5" followed by your last digit and desired party's last digit.
4. Replace receiver. Both the called party and the calling party's phone will now ring. When the called party answers, your ringing will stop. Lift the receiver and begin conversation.

April 16, 1958

(Never mind!)



She's Seen 30 Years Of Telephone Growth

By John Wooley

Dial telephone equipment is "complicated, remarkable and wonderful"—and Miss Verna Graves should know.

This year marks her 30th with the Brookings Municipal telephone system.

A commercial office employee for the system the past 21 years, Miss Graves worked as an operator on the long distance board from 1928 to 1937. But not too long ago she assisted on the local boards during rush hours.

"I've been told how the dial equipment actually operates," says Miss Graves, "but I can't understand how the devices can do all the line changing and connecting. It's remarkable."

Recalling the small amount of equipment needed in 1928, she said, "Times have really changed. I remember when only one operator worked each shift."

Seven or more are on duty now, she noted.

"I used to think it was really something when a few calls were received from cities on the east or west coasts," she added. "Now handling 350 in a day is normal."

New equipment isn't the only "wonderful" change in the Brookings telephone system for Miss Graves. When she first started as an office employee, she worked in a "small area surrounded by chicken wire."

"I looked just like I was in a cage," she laughingly recalls.

Surveying the past 30 years, Miss Graves believes telephone had its biggest boom during World War II.

"Before the war the telephone wasn't used like it is today," she observed. "Some persons almost seemed frightened of it.

"But during the war families called their sons at armed forces bases throughout the country. After the war the habit continued.

"Now," she continued, "the telephone is a way of life."

Brookings Register, 4/16/58

Outside linemen Tom Thompson, Otto Rasmussen, Harry Haugen, Earl Bain and Orville Mulder, photographed in 1958 in front of telephone department vehicles.

CITY VERSUS PRIVATE OWNERSHIP, an idea laid to rest in 1903, was reborn a half century later. The city recognized that it would have to convert to dial, but its hand was being forced by the need to integrate with the rural system, which was planning dial phones in 1953. If the city failed to stay in step, it would face extensive costs in integrating the two systems later. If it coordinated its plans with the rural system, it was forced into dial before it was ready. Mayor Lyle E. Cheever said the city did not have the $1 million for conversion, and evoked the old question of whether the city should be in the telephone business. "For some time there has been considerable talk on the street and among various individuals that possibly the city should seriously consider disposing of the telephone plant as a going concern to someone who would successfully operate it and give us good service," he said.

Citizens were polled by the Chamber of Commerce on whether to bring the issue to a vote. The thousand signatures required were obtained and an election was set April 20, 1954. (Other issues on the ballot were municipal water softening and fluoridation, and election of mayor and one city commissioner.) William Gamble, acting mayor in the absence of Lyle Cheever, reminded citizens that a rate increase would come whether the local exchange was sold or not.

The Chamber sponsored a public meeting, which was advertised in the *Brookings Register*. W.R. McCann moderated, and the Brookings High School debate team debated. The high school social science class researched

Remembering

Two of us could do temporary repairs on cable, but we weren't cable splicers ourselves. No one locally could do that, so Charlie Shea would have to get this fellow from Detroit Lakes to come out. The fellow lived fairly close by and he and Mr. Shea had an agreement that he would come within an hour. Acid from ashes dumped in alleys would get into the soil and eat pinholes in the cable. Later cable was covered with jute to resist the acid.

—Charles Chester

the origin, development and current status of the telephone department. Approximately 500 citizens packed the Armory. Debaters were Joseph Farnham, pro, and William Chittick, con. A consulting firm reviewed the findings of the survey the company completed in 1953. Used as arguments for selling were: costly strides in technological advances; necessary building modifications; additional skilled personnel required; the need for a $1 million bond issue; and probable increased rates. Cited as reasons for retaining city ownership were: low telephone rates in comparison to surrounding towns; good service; an annual profit of about $20,000 diverted to other city needs (an accumulative total of almost $300,000 over the years); and no indebtedness. Charles Poole voiced the sentiments of those opposed to the sale. "I can't understand why anyone wants to sell the only paying institution we've got in the city." Later he put it a different way, "Why would the city want to sell the goose that lays a golden egg?" The *Register* expressed its view in an editorial.

> The *Register* continues to believe that government ownership is unwise, illogical and unsound and for this reason cannot believe the city of Brookings should continue in the telephone business.
>
> . . . Government, whether it be federal, state or municipal, was never organized to engage in business. It is not and never has been prepared to do so. When it has attempted it, the people have not been well served over a period of years.
>
> And there is still another fundamental involved. One of the country's most eminent lawyers recently observed that a 'concentration of governmental power is the first step in the establishment of communism.' The *Register* is not inferring that those who are in favor of remaining in the telephone business are even remotely tinged with communism but it does believe that concentration of power in government hands is dangerous for the very reason that it gives government too much power over our lives. *(Register, 4/11/54)*

Before election day, announcement was made in the *Register* of a proposed increase in rates of almost 40 percent for residence wall phones and more than 90 percent for business phones. One-party wall phones increased from $2.50 to $3.50 and business phones from $3.25 to $6.25. When the Public Utilities Commission in Pierre approved a higher rate than Brookings proposed, rates were raised to $6.50 for business and $4 for one-party.

When unofficial results were in following the election, 1,994 voters had voted against to 349 for selling the telephone department. *(The other issues, a softening plant and fluoridation, were defeated by about the same margin.)*

THE ISSUE HAD BARELY been laid to rest when another matter was tested, that of cooperation with the Brookings County Telephone Cooperative in using a $429,000 loan to upgrade service and install a new telephone system. A proposal had been worked out for the city to buy and supply dial switching equipment for rural lines, house it in municipal quarters, and rent the equipment to the cooperative on a lease basis. The city commission, however, switched its position. The cooperative, it said, would have to erect its own telephone building and operate its own equipment. Eventually a compromise was reached, with Northwestern Bell agreeing to provide trunk connections for the rural exchange. The cooperative agreed to establish an independent switch station with the city, linking the rural exchange to Brookings switchboards, and also to rent cable rights from the city. Finally, the Brookings city exchange agreed to furnish information and operator service.

CHARLES SHEA'S RETIREMENT on May 1, 1955, ended his 47 years of employment by the telephone department—45 as manager. The local newspaper reported he "cleaned out his desk, took down his pictures from the wall and bade farewell to his title as manager of the exchange." His co-workers, friends and representatives of Bell Telephone, Stromberg-Carlson and other businesses marked the event at a turkey dinner at the Hotel Sawnee, at which Verna Graves and Mayor Homer Dwiggins presented remarks. Charles O'Neill, Shea's assistant who succeeded him as manager, was master of ceremonies.

The new manager came to Brookings from Clear Lake, where he owned and operated the Clear Lake telephone exchange. He had also been a Northwestern Bell Telephone employee for 14 years.

THE MOVE TO DIAL TELEPHONES by the rural cooperative put pressure on Brookings. By August 1956 the commission was considering bids for automatic equipment. Stromberg-Carlson of Chicago was low bidder at $185,500.

Stromberg-Carlson had been a favorite source of equipment since early in Brookings telephone history. It had developed the first dust-proof dial mechanism and the first self-contained (bell-in-the-base) telephone instruments. Delivery of 3,000 new digital-dial telephone sets costing $81,000 was set to start in October.

Dwiggins said that installation of the new phones would begin in the fall at the rate of 160 a month. Until this point the only South Dakota cities with digital dialing were Rapid City and Sioux Falls. Target date for completing the change was 1958. Dwiggins noted

1950 - News

Brookings telephone system is the "Goose that Lays the Golden Egg," said R.D. Herold in a talk before the League of Women Voters Thursday night in the south room of the city hall.

The meeting was a special one designed to ask Herbert Cheever and the Brookings advisory council about their activities and accomplishments.

Main point of discussion was the telephone set-up and its good and bad features. The telephone building will have to be replaced or expanded, League members were told. The building was expected to cost around $100,000 or three years' earnings at the present level of income.

Nine service men are working on the system, where if Northwestern Bell took over the operation, it would require a minimum of 14 men, Herold said.

Brookings Register 10/1/50

1954 – News

They'll hang all the Brookings municipal telephone exchange "laundry" on the line April 6. Plans have been completed for an open discussion of the telephone question in Brookings at the Armory-Auditorium at 8 p.m. April 6. Facts will be presented to substantiate retaining municipal ownership of the exchange as well as its possible sale.

Brookings Register, 4/6/54

that bids did not exceed original estimates. The city also advertised for bids on improvements to the telephone building, to start early in the spring.

In November 1956 a bid to purchase $450,000 worth of telephone bonds was accepted. An additional $100,000 was to be sold the following year, but the $450,000 was expected to carry the work for nine or more months.

First step in converting the system to dial was the installation of a PABX at The Sexauer Company. Only incoming calls were manually handled by an operator. The PABX had 25 extensions operating off the attendant's turret and five two-way trunk lines to the downtown central office of the telephone exchange.

The city bought and rented out the PABX units, which permitted inter-office calls and conference calls for long distance. The Sexauer Co. was first to get PABX, and waiting in line were Sawnee Hotel, Brookings Clinic and SDSC. The SDSC installation, O'Neill said, would "be of a size that would serve many small towns."

REPLACEMENT OF ANCIENT WIRING was one of the time-consuming problems during the changeover. "It's expensive to send men and equipment to homes throughout the city, time after time, and find the residence locked or the subscriber 'not ready' for the new installation," O'Neill complained. Standard base rates, he warned, would be charged beginning Feb. 1, regardless of the telephone style.

Another change came with dial telephones: SDSC numbers would no longer be listed in the city directory. Subscribers were to call 1400 for SDSC operators who would provide college numbers. New directories were to be issued the week the exchange was converted to automatic dialing.

ON SCHEDULE, AS PROMISED, the telephone company, switched from manual to dial operation on April 20, 1958, at 1:30 a.m. Later that day Mayor Dwiggins made the first official call. The switch to dial involved approximately 3,900 city phones, 500 SDSC phones, and 550 dial phones of the Brookings County Telephone Cooperative. The changeover cost the city $266,000 in central office and state of the art equipment; $95,000 in building remodeling; $108,000 in outside construction; and $35,000 in engineering expenses. Termed the "largest municipally owned telephone system in the United States" by O'Neill, the exchange had a staff of 15 – five office workers, three switchmen, six plant maintenance men and a plant and equipment employee.

In the office were Verna Graves, Elsie Nielsen, Beverly Reinhart, Jean Thompson and Kathryn Wesche. In the switch and central office equipment department were wire chief Richard Smith, Roger Seas, Charles Tufty and plant and equipment employee C.O. Knudsen. In the plant maintenance department were Thomas Thompson, Earl Bain, Harry Haugen, Orville Mulder, Otto Rasmussen and Dean Scofield.

The conversion came in $50,000 under estimate, and the mayor, members of the commission and telephone personnel lost no time in bragging about it.

HANDLING OF EMERGENCY CALLS changed. Fire, police and ambulance calls no longer came into the telephone office. They went directly to the police station, where a staff of four short-wave radio operators radioed information to proper authorities.

Seven-digit numbers also came with the new system, a Stromberg-Carlson unit. The Federal Communications Commission had given the Brookings rural and Brookings municipal systems a choice of three prefixes: Myrtle, Owen and Oxford. Since the rural system had converted to dial first, it had first choice and selected "Oxford." Brookings chose "Myrtle" over "Owen."

When direct dialing began, O'Neill urged that seven-digit dialing be used, but acknowledged the last five digits could be used for dialing within the Brookings exchange. Once again, the telephone department provided detailed instructions for telephone users.

HOW TO USE YOUR DIAL TELEPHONE (1964)

Your dial telephone is fully automatic and easy to use. BEFORE MAKING A CALL, CONSULT YOUR DIRECTORY FOR THE CORRECT NUMBER. Do not call information for a number unless you are sure they are not listed in the directory. When the operator gives you the number be sure to make a note of it so that you will have it for future use.

To call, remove receiver and listen for dial, a steady humming sound, which is your signal to start dialing. Dial MY2 and the four digits of the number of the party you are calling, in the same manner which the number appears in the directory.

If the telephone number you are dialing is already talking to someone else you will hear an intermittent buzz-buzz. This tells you the line is busy. Hang up and try again in a few minutes.

Should you make an error in dialing a number, replace the receiver and after a few seconds remove receiver, listen for dial tone and proceed as outlined above.

In addition, telephone operators called each Brookings subscriber before the changeover to explain the use of the dial system. The operators made between 3,700 and 4,000 calls to patrons.

Facilities for making local and long distance calls were placed in the foyer of the telephone office for customer convenience. Housed in cherry wood booths, the manual telephones were converted to dial in 1958.

A Stromberg-Carlson employee working on equipment for dial telephones in 1957.

A RELATIVELY TROUBLE-FREE CONVERSION was reported. Of 73,000 calls made in the two days following the switch to dial, fewer than 200 reported trouble and most were human not mechanical difficulties. Three operators remained for about three weeks to answer questions.

The only sad note was that 17 operators were out of jobs the day after the conversion. Many, especially older employees, however, were placed in other jobs. O'Neill claimed that the city was successful in "offending as few people as possible."

During the discussion stage and actual work stages, the *Register* gave the telephone changes generous coverage. The newspaper followed the project through to an open house in May 1958, which allowed the public to inspect the new facilities from the basement to the top floor. A power outage during the open house provided opportunity to demonstrate the automatic shift to generating equipment that would insure service even during electric blackouts.

Telephone manager O'Neill announced in 1959 that all subscribers calling people within the Brookings area had to dial MY2 or OX3 followed by the four digits of the number called. Further refinement came in 1961 when numbers replaced the two remaining call letters. Thus MY2 became 692, and rural telephones took the 693 prefix.

RATES AND BILLINGS were important parts of the operation. In 1962 business rates rose from $6.50 to $7.75; residence one-party from $4 to $4.50; two-party from $3.25 to $3.75; four-party from $2.50 to $3.25. Those charges were still under rates in Watertown, Madison and Mitchell, where rates were approximately $9.60 for business phones; $4.95 for one-party lines; $4.20 for two-party phones; and $3.60 for four-party phones.

Telephone billing had always been handled at city hall. In addition to local calls, between 12,000 to 15,000 long distance calls were logged monthly. The operation took four women a month to process. The entire telephone billing process moved to the telephone office in 1960, and an improved billing system was organized under the direction of Eunice Colburn. New billing equipment permitted one operator to complete the task in about two weeks. Addressing equipment added to billing efficiency.

New services added in 1961 were two-way telephone communication, between cars or car and office, and a directory with regional listings. It was the official directory for surrounding Northwestern Bell towns as well as Brookings city and rural. Not only was a classified or Yellow Pages section included, but numbers

were provided for Arlington, Badger, Brookings, Brookings Rural, Bruce, De Smet, Erwin, Hetland, Lake Preston, Oldham, Sinai and Volga.

By the summer of '61, billing procedures again changed as the day for direct dial long distance calls from Brookings approached. Longhand recording and manual sorting of calls were replaced by a "mark sensing" process of codes and punch cards. The new method made billing faster, simpler, more accurate, and more detailed for the customer. It reduced errors caused by illegibility and manual sorting, O'Neill claimed; but it imposed another adjustment on customers who had already been asked with increasing frequency to adjust to changes in their telephone service.

WESLEY R. HAYS BECAME MANAGER of the telephone company in 1961, a title he held for 18 years until he became general manager of Brookings utilities, a position he held for 9 years. Hays worked for Northwestern Bell from 1931 to 1958.

"Hays brings to us a background of 27 years experience in the telephone field, both administrative and technical, and we feel fortunate indeed to secure a man of his abilities," Mayor Oliver Gottschalk said.

The 5,000th telephone was installed in 1964 at the Caroll Hall home by Harry Haugen, telephone serviceman.

Mayor Homer Dwiggins, with telephone manager Charles O'Neill, made the first dial telephone call to Brookings, Oregon, April 20, 1958.

DIRECT LONG DISTANCE DIALING (DDD) was admittedly behind the department's predictions. In July 1960, Bell operator service was moved to Madison, and therein lay the crux of the problem. Madison was not on Bell's DDD and would not be until 1964.

Early in 1962 Hays, appearing before the South Dakota Public Utilities Commission, requested and received permission to eliminate four-party lines, a necessary preparation for DDD. With the exception of some special trunk equipment, Brookings was ready.

Profits for the first seven months of 1962 were some $20,000 over those for the same period in 1961. Current assets were $1,063,000, and monthly billing had increased approximately $3,000 over the previous year, $2,000 representing long distance calls. The telephone department paid $27,000 annually to the city in lieu of taxes, "an amount equal to what a private business would pay in taxes," Hays reported.

INSTRUCTING PATRONS on the use of DDD kept the department busy in August 1964.

Patrons learned that DDD applied to station-to-station calls only and did not include person-to-person. First the subscriber had to dial 112 to be hooked up with DDD equipment. Next, obtaining the information from Area Code pages in the directory, he dialed the Area Code of the number he wished to reach, then the seven-digit number he was calling. When an operator answered, the caller gave his own number. Subscribers learned that the Area Code 605 assigned to South Dakota covered the entire state. They learned also that they didn't have to use the code when dialing someone within the state. Callers wanting to place a person-to-person call, collect or credit-card call, or calls that required special handling still went through the operator. Direct dialing instructions went out with telephone bills, and an ad in the *Register* prepared residents for changes.

Placing the first call on the new DDD system, Mayor Frie called Mayor Roy Brimm, Brookings, Oregon, on a special test hook-up arranged by Hays. The conversation between the mayors was recorded by KBRK-Brookings and KURY in Brookings, Oregon. The *Register* reported that publicity on the event was published in many West Coast newspapers, including the Brookings *Harbor Pilot,* Portland *Oregonian,* Portland *Journal,* and newspapers in Coos Bay and Gold Beach, Oregon.

Addition of telephones seemed to serve as a measure of city growth. The *Register* regularly reported all progress.

> Brookings is growing—but probably no one realizes how fast as well as W.R. Hays, manager of the municipal

telephone system, and his staff. Since Aug. 20, more than 300 new telephones have been installed in the city—and there is a backlog right this minute of an additional 100, on which the crew can't catch up before next Tuesday.

"We know of many more which are coming, too," Hays said today. "We'll be busy for quite a while just keeping up. We're working six days a week, using five installers and all available trucks."

With the present rush, he said the 5,000th phone mark soon should be reached. "It will be a real milestone in our history when that comes," Hays declared. *(Register, 9/9/64)*

EXPANSION PLANS announced in April 1964 included 2,000 more lines for SDSC, construction of a garage and storage building, rearrangement of the telephone building, addition of cables, a 100-line switchboard for the hospital, and a pressurizing system for all outside cables. Estimated cost: between $250,000 and $300,000. The department had the funds on hand. Its plan for installing telephones in the rooms of new women's dormitories was, however, rejected by the South Dakota Board of Regents. College President Hilton Briggs said that the regents didn't want to increase room rent unless it could be voluntary. The plan was put on hold. *(A similar plan was rejected at the University of South Dakota in Vermillion.)*

"What SDSC had at that time [1964] was one telephone, a pay telephone, on each floor of the dormitories," Hays said, "And those poor kids would line up, you know; they'd want to talk to a boyfriend. Even worse, a call would come in, and who was going to answer? The caller would want someone up on fourth floor at the end of the dorm and then that person would have to go way up there and tell them, 'Hey, you've got somebody on the phone down here.'" Hays said.

By January 1965, Hays reported more than 5,200 telephones (14 percent more than in 1963); 229,000 long distance calls (18 percent more than in 1963); and 23,000 daily local calls. Approximately $96,000 had been spent on improvements and expansion in 1964. Assets were $1.6 million.

In 1966, the city paid the final installment on the 1956 bond issue. It also transferred money to the city's general fund, following a pattern established in 1960 with the transfer of $3,500. The reserve fund in 1966 was about $120,000. Hays said that this was below what the department should maintain; he recommended $185,000 and reminded patrons that "not one cent of telephone expense comes from taxes, and that rates are less than those paid by telephone subscribers in other like-sized cities in South Dakota."

In the spring of 1966, following months of discussion about expansion, the city commission purchased

Morse Johnson, Watertown, and Chet Robinson, Volga, working on toll terminating equipment.

Telephone building under renovation in 1957.

the property east of the telephone building on Fifth Street. The building housed the K & P Car Clinic, whose lease would expire in 1968.

TELEPHONE PATRONS ADAPTED to many changes through the years, and a number occurred around this time. Some Brookings numbers were changed in line with nationwide standardization of numbers; a three-digit emergency call number, 555, was announced for police or fire; information was changed to 311 (previously 113); telephone repair was 411 (changed from 114); telephone business office was 611 and customers who were used to dialing only 62 for local numbers were informed that the full three-digit prefix, 692, must be used. Most of these changes were explained in an ad in the local newspaper. On Nov. 1, 1966, patrons were advised to dial only "1" instead of "112" when placing a direct long distance call.

The public, recognizing that telephone technology was developing, accepted the changes with barely a complaint. After all, the telephone department promised that service would get better and better, eventually exceeding—or at a minimum, matching—any system in the state. The department's past record gave users reason to take the department at its word.

DORMITORY TELEPHONES, put on hold in 1964, were approved by the Board of Regents in January 1967. Men's dormitories were not included, primarily because a poll of male students showed little interest.

In March 1967, Hays said the deadline for expanding telephone facilities had been met. The job included the 1,192 telephones in women's dormitories to add to the 875 telephones on campus. A garage for telephone vehicles and a 50x100 foot building extension would cost an estimated $110,000. Equipment added another $250,000, and installing a 2,700-pair cable to SDSU, along with telephones and wiring, added another $135,000 to $140,000. The company had salted away about $225,000 for expansion.

In a public explanation appearing in the *Register* May 3, 1967, Hays urged a favorable vote on a $400,000 revenue bond needed to supplement reserve funds. He reminded readers the bond would be paid entirely from department profit and would not affect taxes and said that the telephone department was forced to expand to meet the demand for new services. He noted that in 1966, the telephone department had contributed $65,205 in lieu of taxes; $100,000 to the general fund for airport improvements; and $10,000 for city hall remodeling and other work.

Former Mayor Gottschalk, in an open letter to the newspaper, wrote: "Our local rates are 18 per cent lower than cities in the Madison-Mitchell class and 34 per cent lower than the Watertown-Aberdeen class. Even a compromise between the two rate groups would increase the revenue to the telephone company by over $60,000 per year, this same amount diverted to city government would show a considerable reduction in the amount of funds that would have to be raised by taxation." *(Register, 4-15-67)*

CITY-OWNED VERSUS privately owned telephone service continued to spur debate.

> I wish to ask the citizens of Brookings to oppose the phone revenue bonds at the citywide election May 23. Before you vote an enlargement of our city-owned utilities, let us examine some of the problems, present and future.
>
> My first question concerns the management of the telephone department. Are we really serving the best interests of Brookings by continuing city operation of this complex utility? In the United States, over 90 per cent of the telephones are operated by public investor-owned corporations. Why does Brookings have to be different?
>
> The manager of the phone department says that $500,000 of equipment will be purchased. Will the city pay a fair price for this purchase? What companies will bid on the equipment? How soon will this equipment be out-dated? Does the City have the technical ability to evaluate their purchase?
>
> Does the City hire an excessive number of employees? What about the low wages and small pension plan? Brookings Mayor F.G. Frie has admitted in this newspaper that fewer employes would be hired by public owned investor corporations.

Remembering

Hays and a committee approached SDSU President Hilton Briggs in 1967 about telephone installations in dormitories. Briggs wanted to know the cost. "About $2.50 a month per student, the same as people downtown are paying," Hays said. "President Briggs got up and walked around a little. Then he replied, 'That's too much money; the kids haven't got that kind of money.' So I got up and called him over to the window and asked, 'How many of those cars down there are better than those you and I are driving?' 'You win,' he said. 'Put them in.' So then we started in and we put a phone in every dorm room and that was one tremendous job."

—Wesley Hays

> . . . Will this be the last bond issue or is this only the beginning of a series of bond issues every three or four years? Will growth of the community continue and will inflation inflate each new issue? How can the City utility with requirements for additional financing keep their present low rates for the citizens of Brookings?
>
> Again I asked the voters to examine the question and vote "No" on this bond issue thus giving notice to the City Commission it is time to retire from the public-city phone utility.
>
> Remember our million-dollar plus telephone department does not pay one cent to the support of our schools. —William B. Kessler, 1016 Seventh Ave. *(Register, 4/29/67)*

Debate on the bond issue waged back and forth. Utility commissioner Gamble, who was in favor of the bond issue, a week or so before the election brought up a $100,000 telephone department I.O.U., using it to recommend an increase in telephone rates. "Certainly," Gamble said, "if the telephone company is asking for a bond issue for this expansion, they should at this time assume this overdue obligation." State auditors had said, however, that all utility money should be considered as part of the same pot.

Also supporting the bond issue was Mayor Frie, who argued the expansion would "fatten up the phone utility as a money-maker." He also recommended that the city keep the department as opposed to selling it to private interests.

Frie, picking up the "golden egg" expression first used by R.D. Herold in the 1950s and later by Charles Poole, said, "Let's not be foolish and sell the goose that lays the golden egg. Just remember this: any time someone comes along and offers you $2 million to $2 and a half million for an enterprise that cost you originally $18,000, it is for only one reason—it has proved that it makes big money and that it is going to make more big money . . . once you dispose of it, you can never get it back. I would say let's learn how to better use the money these utilities make for the benefit of the people who bought them and are going to supply them with more and more customers every year. Vote 'yes' for the bond issue and give this commission a chance to help our tax situation."

Frie and Gamble had been outspoken in their support of the bond issue, and the day before it came to a vote, the remaining commissioners, Edwin C. Fuller, George R. Little and Paul F. Prussman, also strongly endorsed it.

The vote on May 23, 1967, was light. Expansion carried by 69.7 percent. Because interest rates had risen, the city was in no hurry to sell revenue bonds. Hays said the city could wait until January or February before equipment suppliers and building contractors had to

Myrtle 2 gave way to 692 for Brookings telephone customers in 1961.

be paid. Bids on much of the equipment, however, had been solicited by June.

Local newspaper columnist Bill Leonard added his thoughts to the continuing controversy:

> "The game of 'How the City of Brookings Ought to Be Run' has gained considerable popularity in recent months.
>
> "The city-owned utilities should be beefed up, and regarded as businesses to be kept healthy instead of poor stepchildren to be bled white whenever a city project needs cash. They have turned over hundreds of thousand of dollars to the city for various projects – but they could be returning more, it would appear, if we let them get healthy enough. In the free-wheeling days on Wall Street, corporations used to pay unrealistically large dividends to make them look good on paper, until they finally over-extended themselves and starved. We have been tapping our utility reserves to provide for immediate gains, without looking far enough beyond tomorrow. This is a unique, and lucky city, in that the cream of the profits from utilities services sold here stay here instead of lining the pockets of back-East investors.
>
> "Raise the telephone rates. We're talking business-like wages, business-like services; that means business-like rates. They should be comparable to those charged in towns served by Bell or the independents. Every dollar in the city budget that the utility profits can't cover must come from taxes. That means when the phone rates are unrealistically low, taxpayers subsidize phone users who are not on the tax rolls – the most obvious example, of course, being South Dakota State U." *(Register, 5/27/67)*

Roger Seas, commercial manager, left, at the installation of the 10,000th telephone in 1974. The Edward Tribble family, center; Richard Smith, telephone superintendent, right.

1968 - News

Brookings residents voted overwhelmingly Tuesday to repeal the phone rate hikes approved recently by the city commission.

The vote was 1,211 "no" and 434 "yes" on the question "Should the enactment of ordinance No. 566 be approved.

Commissioners had voted 4-1, with Paul Prussman casting the lone dissenting vote, to increase the rates for the first time in 11 years.

Mayor Forest G. Frie today refused comment on the stinging defeat of the proposal except to say, "I gained the impression the people didn't want to raise telephone rates."

Brookings Register 10/9/68

Meanwhile, construction was delayed when the state auditor advised that the city needed clear title to the land east of the present building. Bonds were sold for 4.2 percent, rather than the 3.8 percent predicted, but "in line for this type of bid."

Lowest bid for equipment came in $105,000 over estimate. Some equipment was removed from the order; copper cable was bought below estimates; duct work at SDSU, where most of the new telephones were being installed, was $12,000 under estimate. With these savings, the overrun was reduced to $53,000. Cost estimate for the telephone warehouse on Seventh Avenue South, between the railroad tracks and Second Street South, was $16,278.

Finally in March 1968, architect's drawings of the addition were unveiled. The addition doubled the front footage, adding 50 feet and running 100 feet deep to the north. Contracts totaling $122,801 were approved by the city commission, some $12,000 over year-old architect's estimates. Adding to the flurry of activity at this time was the letting of bids for a power distribution line, new power poles and replacement poles.

Target date for the new Stromberg-Carlson (XY) Centrex system to be in use at SDSU was March 1, 1969. It would provide 1,400 students phones, serving 2,800 students. The 688 prefix was added for SDSU numbers.

After long discussion, another rate increase was approved in 1968 by commission action. But it was 1969 before rates actually increased. The "fly in the ointment" was a city commissioner who often was the lone dissenter on city issues. The change proposed in 1968 was from $4.50 to $6 per month for one-party residences; from $3.75 to $5 for two-party residences; and from $7.75 to $11 for one-party businesses. The city commission passed the rate increase with one dissenting vote, that of commissioner Paul Prussman.

Hays defended the rates as equal to or slightly lower than those for similar exchanges in the state. "We probably should have done what other telephone companies did—that is to have increased rates two or three times over the past 11 years in smaller increments each time and kept pace with increasing costs," he said. He justified the increase by citing increased labor costs; more personnel; higher cost of materials; increased demand for telephone services; and increased payments to the city general fund.

Prussman believed, however, that the rate increase was unwarranted, and he successfully circulated a petition to have the matter submitted to referendum. Despite the best efforts of Frie and other commissioners to justify the increase, residents voted 1211 to 434 to repeal the hikes. It was a stinging defeat.

In January 1969, Bell raised long distance rates from 60 to 85 cents per month for resident service and from $1.75 to $2.20 for businesses. Rates were lowered on direct-dialed calls at certain hours and on Saturday and weekday holidays.

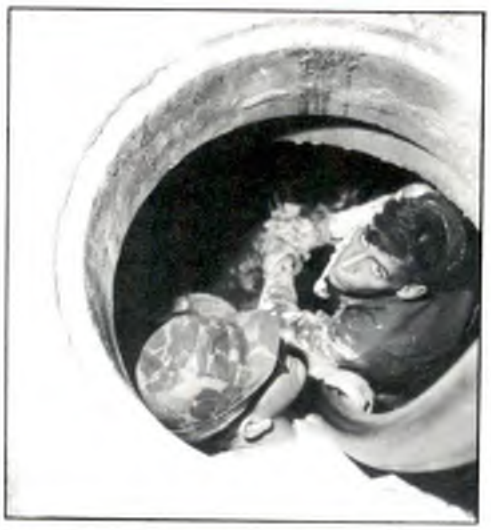
By the middle of March 1969 the Centrex system was ready to go. Twenty-three men from the Carlson Corporation worked two 10-hours shifts to meet the March 16 deadline. The system gave students and university personnel a telephone network comparable to that of business and residential districts. It also allowed a party to transfer a call or take part in a three-way conference call. The system required seven-digit numbers with a 688 prefix.

Ten months after the first unsuccessful try to raise local rates, the city commission again announced it intended to increase rates. Apparently this time the commission did a better job of preparing the public. Frie said, "We are going to ask again for a raise in telephone rates in order that the telephone department not only pay 1969 expenses but have a rate of income based on 1969 instead of 1957. Our new rates are below Bell rates and still will bring in an estimated $60,000 extra net per year." Hays said the increase would provide $150,000 for the city's general fund, more than a privately owned system would generate in taxes, and would still maintain a lower rate schedule than a private company. Ads comparing Brookings' proposed rates with those of Northwestern Bell appeared in the newspaper.

This time around, opposition was minimal, and with the approval of the PUC, which called the proposed rates "fair and reasonable for the service proposed," they became effective and showed up on telephone bills Sept. 1, 1969. One-party resident rates went up $1.40; two-party up $1.15; and business up $3.25. Paging service was available at $15 per month.

The early '70s were busy years. Cable was going underground and construction workers were laying conduit ducts. Underground cable meant more people could now have private lines. The ducts, containing more than 16,000 lines, were expected to handle the city's expansion for at least a quarter century.

CHANGING CUSTOMER HABITS was part of the company agenda. Long distance callers were urged to use direct dialing rather than place their calls through an operator. In August 1971, only 60 percent of the city's long distance calls were dialed direct. Hays pointed out that direct dialing was cheaper and faster and noted that it was cheaper to "direct-dial to San Francisco than to call Rapid City through an operator."



Pulling telephone cable through a conduit in November 1967.

Always something new and improved

Telephone Dept. can page you

A new telephone paging service being offered here can let subscribers know when they have emergency calls, even if they are miles from the nearest telephone.

A transistorized pager, small enough to be clipped to a shirt pocket or the pocket of a suit coat, sounds a series of beeps when a subscriber's number is dialed.

While the subscriber cannot answer through the pager, it does let him know there is an emergency call for him. He can go to the nearest telephone and contact his office or home.

Wesley Mayes, manager of the Brookings Utilities Dept. which operates the city telephone service, said the paging service was started Monday. It costs only $13 a month.

"We only have about 15 available and we expect them to go fast. We have already had about that number of requests for the pagers," Hayes reported.

The special equipment was installed Friday. Hayes said the ac pagers have an effective range of about 20 miles. They operate on the same system as mobile telephones but there is no interference. The pager service costs less than half as much as a mobile telephone.

The telephone pager, a Motorola product, weighs only 6½ ounces. It is about the same size of the eye glasses case many persons carry in their pockets. An average weight for eye glasses and a case would be between 3 and 4 ounces.

Physicians on emergency calls are now tied to a telephone. The pager could free them to run errands or even to go the the theater.

Salesmen and businessmen, expecting important messages, would be able to leave the telephone to handle normal duties or call on clients. There are any number of uses for the pages, Hayes said.

Each subscriber will be assigned a 4-digit telephone number. When dialed, it causes the pager to beep. When an emergency message is received at his office (or home), an employe or member of his family dials the 4-digit number and the subscriber knows he is to call a designated telephone number for an emergency message.

The pagers operate off inexpensive batteries which last 200 hours. Since pagers normally would be used only for short periods at a time, this wouldn't require subscribers to make many trips to the telephone company to purchase new batteries.

Wesley Mayes shows new telephone pager.

Brookings Register, Aug. 10, 1972

Directory assistance

Phone system finished

Last week marked the completion of the Centralized Directory assistance system for South Dakota, according to F. S. Reep, commerical manager for Brookings Municipal Telephone Company.

Under the new Centralized Directory Assistance system, the directory records for all communities in South Dakota have been brought together under one roof—the Sioux Falls telephone office.

South Dakota is the first area in Northwestern Bell's five state territory to have Centralized Directory Assistance. The Sioux Falls office is also the first of its kind in the Bell System.

The company started converting to Centralized Directory Assistance in July 1971 when Rapid City and Deadwood records were moved to Sioux Falls. The addition of Huron and several of its surrounding communities last week completed the project for Northwestern Bell in South Dakota. The Brookings exchange has been on this project since May of this year.

Now when anyone in South Dakota calls directory Assistance, he will reach an operator in Sioux Falls who has the listings for all telephones in the state.

"The change to Centralized Directory Assistance was prompted by the necessity to find a more economical, efficient manner of furnishing directory service to all telephone users in South Dakota," according to Reep.

Prior to the changeover to the centralized system, many callers talked to two operators before getting the number they wished. Now directory assistance callers are routed directly to an operator in Sioux Falls who gives them the information right away. The same is true for people calling from outside the state for telephone numbers in South Dakota. As a result calls to directory assistance will be handled faster than under the old plan.

With the centralized system there is more opportunity to locate a customer's number, since all communities' directory listings are right at hand. Sometimes in the past when a person called for a customer's number he had the right name but the wrong community. Reep says the new system should help eliminate this problem and they should be able to locate a customer's number no matter where he lives.

He also pointed out that the directory assistance operator can be more helpful if the person calling would have the correct spelling of the name of the party he is calling.

Another feature that Reep says will give telephone users better service is that telephones installed by 5 p.m. central time will be listed by 5 a.m. the next morning. It's done through the help of a computer system and there's an average of 500 additions and number changes in South Dakota every day.

Brookings Register, Nov. 28, 1972

Lola Duff, the chief information operator at the Brookings Telephone Department, is kept pretty busy during the day. Some 300 people a week call to find out what time it is. The operators have to answer another 14,000 requests a month for telephone numbers. (Register photo by Mark Hesle)

Hello, operator?

By CORRINE OLSON
Register City Editor

When Lola Duff goes to work in the morning, she doesn't have to worry about being lonely. In her job, there's always somebody to talk to.

In fact, some 300 people a week call her and her co-workers to ask what time it is. Another 12,000 to 14,000 call to ask for people's phone numbers.

Duff is the chief information operator at the Brookings Telephone Department.

She and another woman work from 8 a.m. to 5 p.m. answering questions posed by telephone users who call 411. When they go home, other operators continue with a 24-hour cycle.

Duff started as an operator in the early '40s when she was a junior in high school. "I wanted a job and one of my friends was an operator, so I went down and got it."

She has worked off and on as a operator since that time and came back as a full-time information operator when the city started offering that service in 1977.

Before that [illegible]

Another time, an airline service office called to say they'd had found the suitcase of a woman who had an unlisted phone number.

Duff said she couldn't give out the number.

But instead of ignoring the call, she called the woman and told her that her clothes had been found.

"I thought that was an emergency. You'd want your clothes back."

Unless the caller can convince the operator that an emergency exists, there's very little chance that they will ever be given an unpublished phone number.

"We just never give those out," she said.

Refusing to release those numbers is one of the things that makes callers most irate.

Another is the refusal by the operators to give out the address of a private residence or business.

Ron Hoffman, Duff's [illegible]

1975 - News

Extended area service to Sinai will be offered to Brookings and Brookings-Lake Telephone customers beginning Friday. Customers of the Brookings Utility 692 and 688 exchanges and the Brookings-Lake 693 exchange will be able to dial direct to Sinai using only the 826 prefix.

This service is being instituted through the cooperation of the Brookings, Brookings-Lake and Northwestern Bell systems. No extra charge will be made to customers for these direct line calls.

The Friday date was chosen for the beginning of service as new telephone books are going out to Brookings customers this week. Directions for use of the service are included in the phone book. Brookings and Brookings-Lake customers are being informed of the new dialing privilege by notes in the November telephone bills.

Brookings Register 11/18/75

Changes piled one on another. The Bell system moved its information center for Brookings from Madison to Sioux Falls. The information number was changed from 311 to 411; repair number from 411 to 611; and the office number from 611 to 692-6211. The campus information number was changed from 9 to 39. The nationally standardized emergency number was changed from 555 to 911. And the telephone company was preparing for conversion of the PABX system to Touchtone.

In 1971, Hays summed up the various areas of expansion: 58,835 feet of underground duct; 4,092,000 feet of underground cable laid; PBX board purchased for the new Northwestern Bank building; 50 lines and a trunk line added to 3M's PBX board. Number of phones had grown to 8,725; average daily calling rate 38,150 (more than four calls a day from each telephone in the city); and long distance calls were 487,339, up 16 percent over the previous year and tripled since 1961. More than 86 percent of all long distance calls were now dialed by the customer.

Telephone rates had climbed to $5.90 for one-party residences; $4.90, two-party; and $11, business phones. But the telephone department could still claim that rates were 20 percent lower than those in towns of comparable size.

In 1973 a 10-year forecast of budget needs was made by Hays, now general manager of Brookings utilities as well as manager of the telephone department. "By late 1976 or 1977," he predicted, "we will have a complete electronic central office that will replace our present equipment at a cost of around $2 million."

Specific predictions were left to Richard Smith, telephone plant superintendent. He expected close to 11,000 telephones by 1983 and billing to approximate $2 million per year by 1975. He anticipated Touchtone and toll ticketing by 1975. His predictions were conservative. The 10,000th telephone had been installed by 1974. Number of telephone company employees reached 31.

Early in 1975, Northwestern Bell received PUC permission to raise long distance rates. The new rates affected Brookings telephone customers. Minimum charging period was changed from three minutes to one, with 35 percent discount for customer-dialed calls from 5 p.m. to 11 p.m., Sunday-through-Friday, and a 60 percent discount from day rates 11 p.m. to 8 a.m. every day, and all day Saturday and until 5 p.m. Sunday. Many of the approved changes, however, had little effect on Brookings since they were for optional, not basic service.

SERVICE INTERRUPTIONS continued despite equipment and technical improvements. Wet cable was often the culprit, but cable was also cut from time to time interrupting service until repairs were made. In October 1973 Brookings, White and Elkton were cut off from the rest of the world for more than two hours. The municipal electric department crew had cut the city's long distance cable. Until temporary repairs were made, no long distance calls entered or left by either operator or direct dialing. Since Associated Press wires to both radio stations and newspapers were hooked up to the long-distance cables, news from the outside world was cut off as well.

In May 1975, service was out for eight hours for more than 150 Brookings residents, the Brookings Mall and the 3M plant. Damage to a line during construction in the area went unnoticed until spring rains brought the water level up. Near misses occurred, such as water rising to the door of the 415 Fourth Street office during a fall '75 thundershower.

While outages continued, the department was gaining a reputation for promptness and efficiency in restoring service. Citizen complaints generally were light when inconveniences occurred. The public seemed to appreciate that occasional glitches were part of the price to pay for progress. People took in stride, also, a rash of nuisance and prank calls in 1975. Police Chief Douglas Filholm said his department was receiving more than its share of complaints.

THE COMPUTER AGE CAME for telephone in the '70s. Unfavorable votes on bond issues in the early years were forgotten when, in 1975, voters approved by 78.7 percent a $950,000 bond issue for purchase of a computer exchange system to replace the

In July 1975 a photo of beaming city officials and community leaders appeared in the Brookings Register. High spirits were occasioned by the signing of a contract with ITT for a computer office system. Seated from left are Wes Hays, utilities manager; Howard Truss, ITT vice president; Robert Reimers, utilities board president; and Richard Smith, telephone superintendent. Standing are Boyce Smith, city finance officer; Don McBride, Brookings Area Chamber of Commerce executive director; Warren Lotsberg, chamber business committee; Homer Osvog, utility board member; and Mayor Orin Juel. Don Holm, utility board member, stands second from right. The other men represent ITT and the engineering firm responsible for checking bid specifications.

1975 - News

Tuesday the Brookings Utility Board awarded the contract for modernization of the 692 central office equipment to the ITT corporation. ITT had the low bid which met specifications and was within the city's cost projections.

Actually, ITT was the only bidder to meet all the specifications and their proposed solution to the city's telephone modernization was next to the lowest bid received from six different suppliers.

Nippon Electric Corporation (NEC), a Japanese manufacturing firm with offices in the United States submitted a bid which met all specifications except the requirement that at least 50 per cent be manufactured in the United States.

Brookings Register 6/19/75

electromechanical equipment of the 692 exchange, two years short of its 20-year life expectancy.

The new system gave patrons Touchtone or push button dialing, conference calls, WATS lines, data line services and free emergency service with fire and police. It also offered call waiting and call forwarding. Customers could subscribe to any one or all of the features. Three-way calling added a third party to telephone conversations; call waiting allowed a caller to be placed on hold if the line was busy; call forwarding automatically transferred calls to another line. Businesses were expected to be the heaviest users of these features, but they were available to all telephone users. The system did not have picture phone capability but could be reprogrammed to provide that service at some future time.

Speedy repair service was one great advantage of the computer system, which was programmed to run a complete test of telephones during the night. When personnel arrived at work in the morning, they could look at a printout to determine if there was trouble on any lines. "This saved the customer any waiting period since the phone could be fixed before the customer realized the trouble, and the new system was one of the few capable of growing with Brookings 20 to 40 years down the road," Smith said.

The computer contract went to International Telephone and Telegraph (ITT), lowest qualified bidder at $1,746,700. This broke a long history of doing business with Stromberg-Carlson and passed up a lower Nippon Electric Corp. bid because it did not meet the specification that at least 50 percent of the equipment be manufactured in the United States.

The $950,000 bond issue fell $800,000 short of the total cost of equipment, but the balance was to come from the city's telephone capital improvement fund. Expected also were increased rates. The last increase occurred in 1969. In 1976 rates increased on one-party residence telephones from $5.90 to $6.55 and on two-party from $4.90 to $5.50. Business lines increased from $11 to $13. The rates for residence telephones remained essentially unchanged for the next 15 years. Patrons, however, were not feeling full effects of low rates because gradually mandated costs, outside the control of the telephone department, were being collected by the department. The department was forced to act as a collecting agency for both state and federal governments. Although these charges were on the customer's bill, none of the money went to the department. Included were an access charge and a handicapped surcharge.

Hays said labor expenses had more than doubled since 1969, and material costs were up 100 to 200 per-

cent. He compared the 1969 transfer of $87,000 from the department in 1969 to the $304,000 transfer in 1974 and the expected transfer of $233,000 in 1975. He pointed out that Brookings rates were still below all larger cities in the state. "The closest rate for residential one-party lines would be Vermillion at $6.60, and the highest Sioux Falls at $8.40." Another bright point was the low (5.95 percent) interest rate on the $950,000 revenue bonds. But of great concern were recent court decisions against Bell Telephone. Toll calls had been split 50-50. That income helped independents keep their rates low. Without it, they would be forced into sizable rate increases.

A new service to Brookings and Sinai was announced in late 1975. Brookings-Lake customers on the 693 exchange and Brookings telephone customers on 692 and 688 exchanges would be able to dial direct to Sinai without charge. Of more significance and of lasting impact, both to the department and customers, was a Federal Communications Commission (FCC) ruling, effective May 1, 1976, allowing customers to purchase their own telephones. Up until this time, the telephone company owned and installed all telephones. The U.S. Court of Appeals issued a stay of six months from the May 1 date.

The first shipments of equipment for the electronic central office arrived in October 1975. By September 1976, telephone equipment testing began, and in January 1977 computers were programmed and software testing begun under supervision of ITT, which set Aug. 17 as the date to turn the new system over to the department. When cutover occurred, all 692 numbers were in the new electronic office. The 688 exchange remained in a separate office and the Brookings-Lake Co. retained the 693 numbers. Studies had shown that 688 and 692 exchange users were averaging 45,000 calls per day from about 11,000 stations.

By November 1976, 73 years into its history, the department installed its 6,000th telephone. It took 64 years for Brookings to reach 4,000 telephones, but just 14 more to reach 6,000.

A FEW GLITCHES MARRED an otherwise smooth changeover. Patrons adjusted to a "more raucous" sound adopted because long-distance operators complained the numbers dialed in Brookings never rang. They were ringing, Hays said, but "so soft and melodious" they often weren't heard. That softer tone was a local innovation.

The newspaper needled when a tone change was made: "The caller can't miss the new tone, which has all the soft melody of a little boy dragging a baseball bat along a wrought-iron picket fence." Hays called

1976 - News

Brookings telephone customers can start purchasing their own phones beginning May 1, but the superintendent of the telephone department questions whether or not the practice would be economically wise.

A new Federal Communications Commission ruling which would allow customers to purchase their own telephones was discussed at the utilities board meeting Tuesday afternoon. Telephone Supt. Richard Smith said the new regulations would "drastically affect" the local telephone company.

Under the new rule, customers can buy telephones and have the phone company install them. Smith sees most of the instruments being used as extensions but they could be used as the primary telephone in customers' homes.

The FCC ruling would allow these telephones only if the user was on a private line. Customers on party lines, switchboards, pay systems or keyboard systems could not buy the equipment because of customer identification problems.

Brookings Register 4/10/76

the new ring the "standard, true ring" Bell patrons were accustomed to. The "bacon-fry sizzle," he said, was due to damp cables, or a fleck of dust in a switch contact—or "some other gremlin-induced difficulty," not a sign the telephone was being tapped, as some people thought.

As the time approached for the electronic central office to go on line, the telephone company announced plans to stop all but emergency service work from three days before and a few days following the cutover on Sept. 17, 1977.

There was some grumbling, but the new system was installed "without a hitch," according to telephone superintendent Smith. Customers soon learned that the new system completed their calls more quickly and accurately. An information sheet was mailed to all subscribers. Most of the changes, as it happened, were to remain in place into the '90s:

The "College Rush." Each school year as a new crop of students arrives to order telephones, the lines at the telephone building extend to the sidewalk on Fourth Street.

Dialing instructions 1977

1. D.D.D. or Direct-Dial Calls—Dial "1" plus Area Code (if other than 605) plus telephone number. You will not hear the tones as you did with the old system.
2. Operator Handled Calls—(person-to-person, collect, credit card and third number)—Dial "0" plus Area Code (if other than 605), plus telephone number. The Operator will come on the line after dialing and ask for proper information.
3. Directory Information—For 692, 693, 688 and 826 numbers, Dial "411."
4. Directory Information for Other South Dakota Cities—Dial "1" plus Area Code plus 555-1212.
5. Directory Information for Other States—Dial "1" plus Area Code plus 555-1212.
6. To Report Trouble with Your Telephone—Dial "611." This number will be answered day or night.
7. When You Receive a Call—You may hear a short ring followed by a normal ring. This is correct for the new system.
8. To Call the Other Party on Your Line—Dial their telephone number. When you hear busy tone hang up. Both telephones will then ring.
9. To Call the Telephone Business Office—Dial only "811."

With DDD, the department converted to Local Automatic Message Accounting, which permitted local recording of tolls calls. Northwestern Bell still owned and maintained the transport equipment in the Brookings telephone office. But with the new system, customers could direct dial on collect and credit card calls by dialing "0" plus the number.

By February 1979, Smith recommended that the utilities board purchase a 5,000-line digital central office system at an estimated cost of $975,000. The system would improve telephone service at SDSU and provide additional lines needed by 1980. Existing reserve funds

were expected to cover the cost. Bid opening was scheduled for Sept. 15, 1980. An option permitted the board to require 50 percent of the equipment to be manufactured in the United States. Specifications, however, did not exclude equipment containing less than 50 percent U.S.-made parts. While a Japanese firm based in Texas was one of the low bidders, it was determined that the only bid meeting specifications was that of $1.7 million by Northern Telecom in North Carolina.

DEREGULATION CREATED NEW DIRECTION and problems. Smith, who had assumed the temporary position of manager in 1979 when Hays retired, waded into the problems of industry deregulation. Meant to stimulate growth and competition, deregulation was doing just that in Brookings. To compete against shopping malls, the department established a sales and marketing divison, which stocked decorator telephones in addition to standard models. Smith was pictured in the local newspaper with a Snoopy telephone that sold for $125. The office stocked phones retailing for as much as $170 and could order others made of marble and wood, priced up to $1,500. Black dial models sold for $39.90 and colored Touchtone for $63.

How deeply to get into marketing or whether even to sell telephones was debated. Requiring all patrons to own their own telephones was rejected. The department announced it would service, without charge, telephones it sold but would charge for those purchased elsewhere. The department, encouraging customers to continue to lease, said the 50-cent per month reduction in a telephone bill could not make up for the money spent on a telephone or possible service calls. The department charged to install telephones not purchased from it, and it announced that if a telephone had been hooked into the system without knowledge of the local office, a $20 fine would be charged.

Deregulation was also expected to produce competition among providers of long distance service, but this eventuality was two or possibly three years into the future. Nevertheless, it caused a great deal of uneasiness about future rates. Deregulation was being sold as a great boon to telephone customers, but no one was sure just what it would eventually mean to independent companies. Nor could anyone predict the exact effect deregulation would have on fees, although it was generally accepted that local rates would rise and long distance rates decline. The decrease in income from toll rates would be made up by higher local rates, everyone predicted.

These dire predictions continued from 1982 through 1986 but, of course, never did materialize for Brookings.

Eunice Colburn and Robert Gaard at a Farm and Home Show in 1988

From 1989-90 a Network Interface Device was installed at every home having telephone service. Customers could determine if a problem was in their equipment or with the telephone cable. Shown here are installer Bob Tusher and outside plant supervisor James Lee.

Local rates on residential telephones remained within $1 of what they were when deregulation took effect.

Telephone installation, under deregulation, jumped from $18 to $41, later modified to $20 to $30 based on the particular installation. Newly appointed telephone manager George Olsen defended the increase. "Deregulation forces the cost causer to be the cost payer. This requires telephone companies to meet their expenses without relying on toll revenues to subsidize other costs." The only crumb of optimism Olsen could offer was again to remind Brookings telephone patrons that their charges were still below those of Bell customers.

CRAIG OSVOG WAS NAMED Brookings Utilities Manager in January 1981 and in 1982 management of the telephone department was included in his responsibilities. It was 1990 before the position of telephone manager was reinstated as a separate position. At that time James Adkins was named manager.

By 1980, $3,661,500 had been transferred to the general fund from the telephone department. Part of this had been earmarked for special projects: hospital construction, city hall remodeling, airport construction, a recreation fund and industrial site development.

In 1981 a formula was adopted for transferring funds. It was agreed that 35 percent of gross funds from the Telephone Department would be transferred on an annual basis to the city's general fund. Between 1980 and 1990 this amounted to almost $15 million. An additional $77,604 in 1989 and $189,313 in 1990 were transferred to the school district. By 1990 the department had turned over almost $19 million. The amount transferred annually was intended to approximate what the city would receive from taxes if the telephone department were privately owned.

Deregulation occupied much of the attention of management in the 1980s, but other things were also happening. In early '81 how to pay for digital equipment was still being debated. Utility board members agreed that funds should come from telephone reserves, and that philosophy prevailed.

CHANGES CAME RAPIDLY IN THE '80s. In June 1982 positions of nine information operators were terminated and information service moved to Sioux Falls.

"It was more economical to pay Northwestern Bell to do it than to do it ourselves," Osvog said. The change actually reverted to a system similar to that used between 1961 and 1977, when information requests were handled out of Sioux Falls and Madison. Operators who had been rehired in Brookings when a new switch was installed in 1977 again found their

jobs eliminated when the digital switch was installed five years later. Saving money and making it were keys to the change. The department had been spending $61,000 for operators. The service could be bought for $25,000, and Bell would return a larger percentage of toll call receipts. But this time operators lost their jobs and new ones were not found for them. "We have never liked to see jobs terminated and if there has been any way to justify keeping employees, we've done it," Osvog said.

In August 1982 a Northern Telecom DMS 100/200 Digital Centrex Switching System replaced the 688 Stromberg-Carlson XY equipment. The system was software controlled and as such capable of being upgraded to accommodate changes in the telephone system. With these changes came the addition of the new 697 prefix. The DMS 100/200 was located at the telephone office and was equipped with 3,834 lines. The remote line concentrating module equipment (RLCM), located in the basement of the Home Economics and Nursing building, had 1,144 lines and was intended to provide digital centrex service to the administration at SDSU.

Meanwhile, the new $1.7 million digital switching system to improve telephone services on the SDSU campus was put on line on Aug. 6, 1982. So smoothly did the operation go that Olsen was quoted as saying, "It was about as exciting as watching grass grow. Anyone in town didn't even know what we were doing."

Charles Stokes repairing duct line on 22nd Avenue.

Ken VanMaanen with an armful of returned telephones.

The first official call on the new switch was placed in September by SDSU President Sherwood Berg, who called Virgil Ellerbruch, utilities board president.

The department was at capacity for telephone numbers with the 692 prefix. New numbers were given the 697 prefix, and off-campus telephones that had temporarily used the 688 prefix were also switched to 697. The department said service on campus now was equal to or above that at similar institutions. "We're really here to brag," Ellerbruch said. "When the bids for the new equipment were let in 1980, very few communities in the U.S. had a system as complicated as the one Brookings has installed." With the new system, foreign countries could be dialed direct, a feature important to staff and the 270 foreign students enrolled at SDSU.

As budget needs for the next eight-year period were considered in 1982, requirements seemed rather modest: final payment on the digital switch, a building to store vehicles, reroofing the telephone building, purchase of a computer, and additions to the digital switch.

An ongoing controversy over Yellow Pages advertising rates surfaced again in 1982. The company printing the directories, General Telephone Directory Co. of Des Plaines, Illinois, in 1982 asked for a 10 percent hike in advertising rates. As had happened in the past, the utilities board felt that rates were high enough. The request was denied, and that happened again in 1983 and 1984. Osvog, arguing for the increase, said that 52 percent of advertising fees went to the telephone department, and rates were about 70 percent of those charged in cities of comparable size. The utility board was unmoved, and rates remained the same.

To increase interest in the special custom calling features, the department offered free installation of call-waiting, call-forwarding, three-way conference calling and speed calling.

By April 1, 1983, the department was ready to prepare and mail bills out of its Brookings office. Billings had been switched to Computer Service of Mankato, Minnesota, but the Brookings office was now ready to bring the operation back home. A contract was signed with North Central Data Cooperative to write software for the program. That did not work out, and the department pulled out of its contract. In its place, software that was already written and being used elsewhere was contracted for. Data Products Inc. of Texas received this bid. Hardware for the project cost approximately $650,000. The conversion was made smoothly.

In May 1983, the telephone department quit offering party lines. Only the 507 customers already on two-party lines could retain that service. The change

Snoopy phones?

Who would have believed it?

Bob Gaard, the marketing director for the Brookings Telephone Company, is stocking a new line of decorator phones for Christmas including the Snoopy telephone. Telephone deregulation has prompted the telephone company to become more aggressive in its marketing effort. (Register Photo by Ron Johnson)

Phone company beefs up marketing plans

By CORRINE OLSON
Register City Editor

Anticipating the competition due to telephone deregulation, the Brookings Telephone Department is beefing up its marketing department in an effort to convince people to do business here.

Bob Gaard, the marketing director, said in the past six months he has received many requests for information about the effects of deregulation and what that will mean for residential and business customers.

"We aren't going to tell anyone they have to buy a phone at least for the time being," Gaard said. "We're leaving that option to the customers. We're still continuing to lease. But if they wish to purchase they can do that."

Because of the leasing rates here, Gaard said it is often cheaper for the customer to lease the telephone equipment than to buy it.

"Our lease prices are very competitive. Being the lease prices are low, it's very affordable for them to lease," he said.

But Gaard said he is not upset that more people aren't purchasing equipment. He stresses that his job is not simply to convince people to buy.

More than that he wants customers to know that the equipment they need can be purchased or leased through the Brookings Telephone Department.

As a part of the new marketing effort, Gaard personally visits business customers to discuss their communications needs.

He also offers suggestions about the kind of equipment that might meet those needs.

Once deregulation is completed, other companies could enter Brookings to market their equipment.

Although Gaard spends the bulk of his time working with business customers, he said his office is also interested in seeing that equipment, including decorator phones, are available for residential customers.

"We feel we have to have available or be able to find for the customer what they want," he said.

In line with that effort, Gaard recently returned from a so-called showcase where the newest telephone equipment is available.

He placed orders for new decorator phones. By Christmas Brookings customers should be able to choose from phones ranging from a Kermit the Frog telephone to one shaped like a mallard duck that quacks instead of ringing.

While those decorator phones are becoming more popular, Gaard said he expects phones in the $20 to $250 range to be the best sellers here.

If a customer chooses to buy the equipment, Gaard said the telephone department can offer maintenance contracts to either residential or business customers.

October 6, 1983

BROOKINGS TELEPHONE
"We Make It Easy"
692-6211

For all your communication needs, we are here to serve you.

"We Make It Easy"
BROOKINGS TELEPHONE
415 Fourth Street • P.O. Box 588
Brookings, South Dakota 57006
Phone (605) 692-6211

March 23, 1984

Brookings Telephone
presents a communications...

Update

Your telephone service will be changing considerably in the months ahead because of federal regulatory decisions, and we want to explain some specific items. Brookings Telephone is undergoing many changes as a result of deregulation and the installation of a computer for all Utility billing. In the future we anticipate many changes including a new look in the format of your monthly statement, rate changes for leased equipment and services, rearrangements of long distance charges on your toll statement and new descriptions for your services.

Rates for telephone service are being restructured. The introduction of competition (as a means to reduce government regulation of the industry) and new technology have triggered the need to change the way services are priced. Long-distance rates have traditionally been set artifically high and part of the long-distance revenue has been used to help subsidize local service, thus keeping local service rates artifically low. For true competition to exist in the long distance market, long distance customers and companies can no longer be asked to help hold down the rates for local service. In essence, each part of your telephone service must begin paying for itself.

Your basic services with Brookings Telephone have not been affected by the breakup of AT&T. Some of the changes that have taken place however include the option to purchase your "in-place" equipment instead of leasing it, buying new instruments and associated equipment at the telephone office and installing and maintaining your own wiring.

We at Brookings Telephone have not forgotten that behind every telephone number there are people - people who depend on us for swift, accurate, dependable telephone service. It is our aim to keep this service as courteous, as helpful and as friendly as we can make it. We intend to keep our rates as low as possible in comparison to our competition in order to benefit our customers, the owners of our municipal telephone utility.

Should you have any questions concerning your telephone service or equipment, please contact one of our customer service representatives or sales and marketing staff by calling 692-6211.

BROOKINGS TELEPHONE
415 4th Street 692-6211

had been prompted by the emergence of customer-owned telephones and the ensuing billing problems.

The first increase in monthly fees for access to long distance service, following deregulation, came when the FCC set $2 for residential lines and $4 for business.

DELINQUENT TELEPHONE BILLS have never been a major problem with the telephone department, but in December 1983, the department asked utility board permission to write off $17,600. By 1985 uncollectible bills totaled $32,479. This represented about 0.6 percent of billings, and Osvog called it "admirable in light of an industry standard for acceptable write-offs of between 1.5 and 2 percent."

Rates for information calls were becoming an issue by the end of 1984. The department did not charge for directory assistance information for a South Dakota number, but the FCC had approved a tariff implementing a 50 cent charge for each out-of-state directory assistance call. Each customer could receive up to two free out-of-state directory assistance calls per billing if at least two out-of-state calls were completed. Two telephone numbers could be obtained at the same time for one 50-cent charge.

While some telephone companies limited telephones to the Touchtone type, Brookings, with a large inventory of rotary phones in the 1980s, continued to offer both. About 50 percent of new customers in 1984 requested Touchtone type phones.

THE STATE OF SOUTH DAKOTA moved to take over the SDSU telephone system in 1985. The department was planning to upgrade the SDSU system, but much to its dismay, the state announced it was examining a plan to purchase a system for the university. About 14 percent of the department's total toll revenue and 16 percent of its local income came from SDSU telephones. The possibility of losing 30 percent of its income was of major concern to management, and it prompted an unheard of closed meeting of the utility board. In June 1985 the board president, Don Bender, requested a meeting with Gov. William Janklow and suggested that a committee be formed to study the telephone issue. Mark Bierle, director of information processing for the state, met with the Brookings board June 17.

Jim Adkins, at that time central office manager, reflected on the April staff meeting with the state's representative. "We met upstairs in the telephone conference room with the state represenative. He had come to Brookings to look over the SDSU telephone system with the idea that the state would put in a huge PBX system. They were going to thank Brookings Telephone

Telephones took on a different look in the '80s, and a corner of the main office was used for displays. This model sold for $98.95.

Installing fiber optic lines near Sioux Falls in 1989.

Telephone employees celebrated the SDSU-DMS cutovers with a congratulatory cake.

for providing all the services that they had in the past and very politely send us on our way. That was an interesting meeting we had that day. It lit several fires around this building and the utility building and started a long, drawn-out adventure in which eventually both telephone and the state's interests were met."

The Brookings side and the state's side were aired at the meeting, but no decisions were reached. The governor's proposal was to go into effect in June 1986.

To protect itself against losing local access service, the utilities board passed a tariff to prohibit the resale of local service. The state's plan called for the new system to serve both the administration and the students living in dormitories. The board did not object to updating the system in the administrative area but argued that the state's taking over service in dormitories would be an infringement on service that rightly belonged to the Brookings Telephone Department. A second meeting was requested, this time with Gov. Janklow, and out of that meeting came a plan for a joint study by the department and the state of South Dakota to determine the kind of telephone system to be installed at SDSU.

When the study was presented, Janklow's response was that the state would not install its own telephone system at SDSU if Brookings Telephone cut its costs to the state by $156,000 and reduced costs to students by $40,000 a year. The state, through its State Telecommunications Network, would provide toll service for administrative offices and for students living in residence halls at SDSU. Brookings telephone would provide local service.

"The solution that was ultimately accepted by the state was one where we provided digital centrex service on the campus of SDSU and to off-campus state agencies," Adkins said. "What we essentially did was to use the same concept the state was applying in all other institutions around the state, adapting programming of the DMS 100 remote so that it mirrored the type of system they were contemplating. We then interfaced smoothly and well with their network."

The department billed directly students using dormitory telephones. The administration lines on campus were bulk-billed to the state. Both students and administrators had available to them the in-state long distance service the state provides. Student rates for local service were the standard rates for all Brookings Telephone Department customers with similar service.

In August 1987 major changes were made at the telephone office, including the addition of 4,840 lines to the DMS 100/200. A new remote was purchased for use at the SDSU site, and 1,800 lines were added. The remote module from the SDSU site was relocated

at 329 20th Street South to provide service to the area south of 8th Street South. The Metaconta "L" was retired.

"We replaced the SDSU telephone switch with an updated version called an RSC (Remote Switching Center) manufactured by Northern Telecom. The RSC had the capabilities SDSU needed. We have a five-year contract which the state has the option of renewing for a second five-year term," Adkins said. "Every indication is that they will." In 1988 the department announced three new services automatically available without charge to all customers with residential or single-line business service. The "Hello Telecommunications Service" gave customers free call waiting, call forwarding and three-way calling. Telephone patrons received ample instruction in the use of all three, including a brochure that went to every telephone user. As they had with earlier advances in technology, customers slowly embraced the services. Before long they were taking them for granted.

In 1989 another custom-calling feature, "Home Intercom," was introduced, and business customers were given the opportunity to lease Centrex services. A digital fiber optic toll facility between Brookings and AT&T in Sioux Falls was installed for transmitting interstate traffic. An open house dedicating this new service was held in January 1990. Although static and noise problems had lessened on long distance calls, with fiber optics callers felt they were talking with someone in

Mayor Gail Robertson and telephone employees Bob Larson and Russ Christenson at fiber optic open house Jan. 8, 1990.

The 1976 telephone directory recognized the nation's 200th anniversary.

the next room. The first official telephone call was made to the White House by Mayor Gail Robertson, who spoke to Sioux Falls native Debra Anderson, an aide to President George Bush.

The transition from manual to computer for payroll and inventory was completed in 1989. Directory listing was also computerized that year.

In January 1990, Brookings telephone placed a new fiber optic transport facility into service. This facility, with a potential capacity of more than 8,000 channels, digitally interconnected Brookings Telephone to AT&T in Sioux Falls. With additional electronics and systems, the facility can be expanded far beyond the initial potential.

Adkins, reflecting on the significance of this event, said, "With this facility, Brookings telephone makes its debut into the telecommunications transport network. This positions us to be a participant in the provision of new hybrid public and private networks. The dynamic changes in the telecommunications industry make the prospect of many new, highly functional network-based industry services quite likely. The facility typifies the commitment Brookings telephone has in preparing for the delivery of newly developed products and services to Brookings residents."

By 1990, deregulation had taken its toll on income. About 15 to 20 percent of the business of wiring and installing telephones had been absorbed by outside retailers, Osvog estimated. Almost 60 percent of the leasing business had been lost. "Although we knew this was coming, it was kind of disheartening to reflect back in the year 1982 when the news of AT&T's breakup came and we looked at our records and saw that we had 14,000 leased phones out in the community. By 1990 we were down to about 5,000."

The department, however, held its own in the business sector. "Only a handful of businesses have bought telephone systems from a competitor," Osvog said.

Osvog, reflecting on changes brought about by deregulation, said, "It turned the telephone business upside down. It changed, for sure, the interrelationships that we have with US West, which was the main connection we had with the world. And it changed the relationship among our fellow independent companies. It also changed the manner in which we deal with customers." Osvog said it would take an extended 15 to 20 years to assess the effects of deregulation properly.

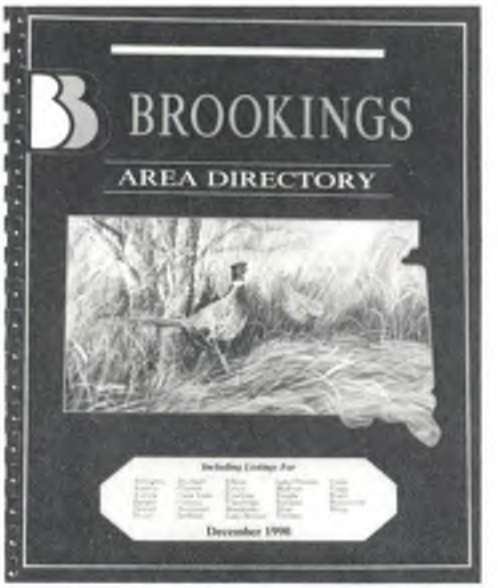
"If deregulation does, in fact, bring new technology, new services and new opportunities, new employment, additions to the gross national product of the country, the employment of many more people in the

communications-related businesses, benefits to consumers in terms of enhancing their communications possibilities at rates that are affordable, that's where the assessment properly takes place," Osvog said.

BENEFITS TO THE COMMUNITY have been "enormous," Osvog said. "Regardless of the future, Brookings residents benefit in terms of services, community contributions and property tax reduction. And there are benefits in terms of the position in which ownership places a community in the future. Through the telephone department, the community owns millions in assets that are appreciating. Twenty years from now these assets are going to be worth a whole lot more than they are worth today. That unseen kind of benefit is really important," Osvog said.

An outsider looking at the the telephone department's history and the relation of the department to the community would have to concede two points: First, telephone patrons generally seem happy with their telephone services and few complaints are recorded. Second, telephone department funds transferred to the city's general fund have not only contributed to the quality of life in Brookings but have kept property taxes lower.

The opinion of Virgil Ellerbruch, long-time member of the utilities board and former chairman, seems to be shared by others on the commission and within the telephone department. "I have always said that if utility services can provide jobs for people in Brookings and break even, we will be successful. Of course, we've done more than that, and part of the reason is the telephone department. If we didn't own the telephone department, utilities probably wouldn't be in the excellent position it enjoys."



Pheasants, a favorite symbol of the state, graced the cover of the 1990 telephone directory. Color has been used extensively on covers. Subject matter is wide-ranging, but usually deals with local or state interests.

Telephone Rates

	Business	Residential
1908	2.50	1.50
1923	2.75	2.00
1949	3.25	3.00
1954	6.50	4.00
1962	7.75	4.50
1969	11.00	5.90
1976	13.00	6.55
1984	15.50	6.50
1990	15.50	6.50

BROOKINGS TELEPHONE

"We Make It Easy"

415 Fourth Street • P.O. Box 588
Brookings, S.D. 57006
Ph. (605) 692-6211

March 14, 1988

Dear Customer,

A pleasant surprise is in store for you—Your
easier and more convenient to use—thanks to the "
initiated by Brookings Telephone. All charges for
Forwarding and Three-Way Calling will be delete
March 21st. These three features will automatic
residential and single line business customers

Please take a few minutes to familiari
use, convenient, time saving features. We ha
pamphlet describing these features or you
Area Telephone Directory on Page IX. If y
these features or instructions, please call

We know these FREE features w
telephone communications. Enjoy them
find these "HELLO" features conflict
697-8000 to make any changes. How
would like these features back on y
to do this.

We are pleased to be able
calling easier—after all, our slo

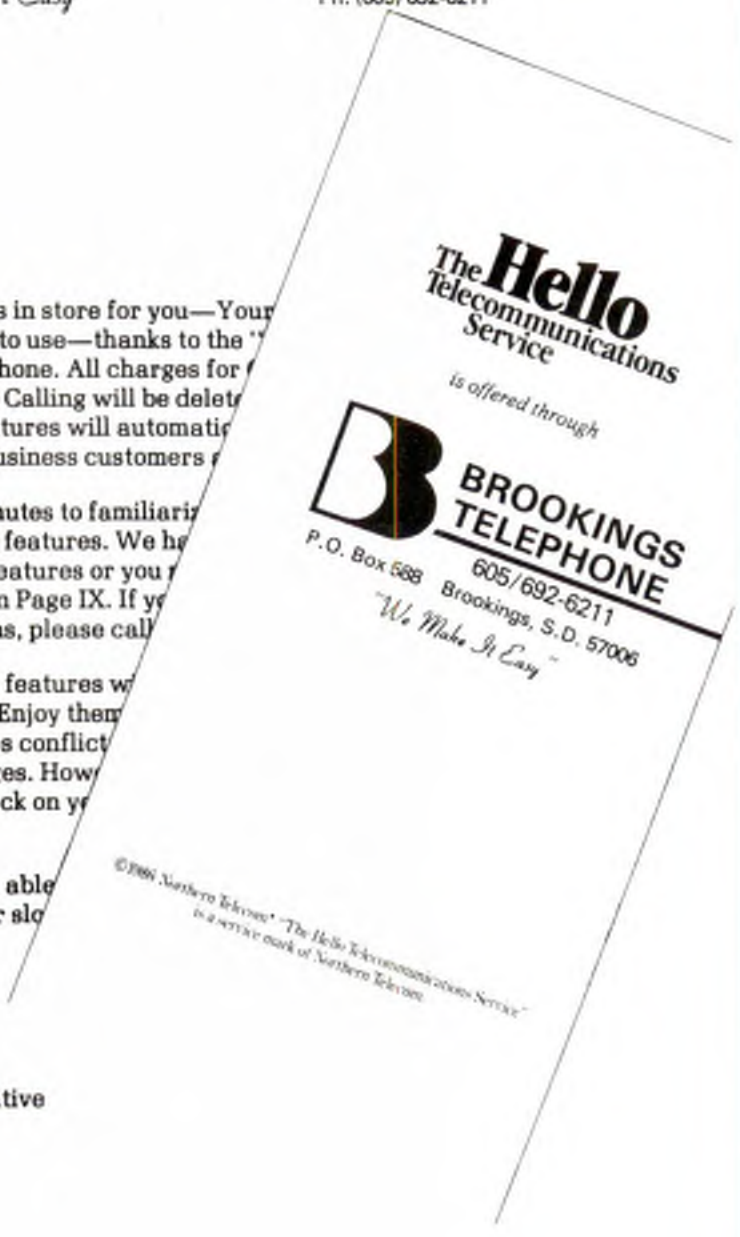
Sincerely,

Eunice Colburn

Eunice Colburn
Public Relations Representative

EC/sst

Enclosure



Brookings Telephone
Events of Interest, 1903-1990

1900 – Dakota Central Telephone Co. provided telephone service to the city of Brookings.

1903 – City of Brookings purchased the telephone system from Dakota Central Telephone Co.

1908 – 350-line Stromberg-Carlson common battery cord switchboard added to system. Along with the Monarch board, it provided service to city, rural and toll telephone for the area.

1908 – First directory published, consisting of 566 city and 288 rural listings.

1916 – Western Electric Co. common-battery switchboard with 500 city, 40 rural, and 10 toll lines installed.

1920 – Stromberg-Carlson switchboard offering 16 toll, 40 rural and 20 toll-to-local trunks was added to Western Electric Co. equipment.

1936 – Kellogg switchboard brought system up to nine operators positions, 840 city lines and 40 rural lines.

1938 – Dakota Central Telephone Co. contracted to operate a toll switchboard at the Brookings office. The company installed and maintained a three-operator-position Western Electric toll switchboard.

1946 – Bell operators ticketed, switched and rated toll calls for Sinai, Volga, Bruce, and Brookings city and rural. Sinai, Volga and Bruce used Brookings as their toll center. Bell operators in Brookings had direct metallic access to operators in Sioux Falls, De Smet, Arlington, Elkton, Volga, Sinai, Bruce, Watertown, Clear Lake, Toronto and Marshall, Minnesota. A phantom connection was available to Huron, Madison and White. Calls to other destinations were routed to the Sioux Falls toll center.

1958 – The telephone department converted to dial with a Stromberg-Carlson XY addition. Local operators eliminated, but Bell operators still located at the telephone office. The department served 3,944 telephones.

1960 – Bell operators discontinued in Brookings. Department centered on Madison, South Dakota, for toll operators until Madison operators were moved to Sioux Falls. When this occurred the telephone department centered on Sioux Falls for toll services.

1961 – MY-2 prefix changed to 692.

1968 – Stromberg-Carlson (XY) Centrex switch added to provide telephone service to South Dakota State University. The 688 prefix added for SDSU. College operators located in the city telephone office.

1970 – Telephone department has total of 8,295 telephones in service. Twenty-eight employees in administrative office, plant office, billing, C.O.E., PBX, outside plant, supply and supervisory personnel.

1970 – Monthly statements sent to customers, 5,071. Key and PBX telephones, 1,320.

1971 – Monthly statements sent to customers, 5,552. Key and PBX telephones, 1,389.

1977 – ITT Metaconta "L" 6,144-line system replaced 692 XY system. Push-button dialing, call waiting, call forwarding, speed dialing, and three-way calling offered subscribers. Local operator information service added. Toll call records converted to Local Automatic Message Ac-

counting (LAMA). Bell owned and maintained toll transport equipment, which was located at the Brookings telephone office.

1982 – Information operator positions terminated; service moved to Sioux Falls.

1982 – Prefix 697 added.

1982 – Northern Telecom DMS 100/200 Digital Switching system installed to replace 688 Stromberg-Carlson XY equipment. DMS 100/200 equipped with Integrated Business Network (IBN), a computer-controlled digital telephone switching system.
– System software controlled. Equipment located at the telephone office equipped with 3,834 lines. Remote equipment, located in basement of SDSU's Home Economics and Nursing Building serves SDSU administration.

1983 – Billing services returned to Brookings; party lines discontinued.

1987 – Remote Switching Center installed for SDSU.

1989 – Payroll, inventory, directory listing computerized.

1989 – Installation begins on fiber optic line to Sioux Falls.

1990 – Fiber optic transport facility in service to connect to AT&T in Sioux Falls.

Chapter 5 – Utility Board

"THE BEST THING that ever happened." That remark is repeated often when the subject of the utility board arises. Brookings citizens, however, were not so positive in the first years of the board's existence.

Approved by public vote in 1970, the board was formed by Mayor Orrin Juel, who consulted with outgoing mayor, Forest Frie, in selecting the five members. Named to the first board were John Lagerstrom, SDSU electrical engineering department; Harold Sand, local electrical contractor; David Pearson, South Dakota State University administrator; Don Holm, local realtor; and Steve LeFevre, local businessman.

Until the utility board was established, the city commission had controlled policies and budgets of electricity, water, wastewater and telephone. A single member of the city commission served as utilities commissioner. That position was held for many years by William Gamble, an SDSU engineering professor, who served on the commission from 1958 to 1971. Gamble had been very supportive of the utility board concept, but at his request, was not named to the utility board when it was established.

Mayor Juel gave credit to former mayor, Oliver Gottschalk, for introducing the idea of a utility board in Brookings. When Brookings approved the utility

Utility board in session March 1990 with Board President Jack Yonkovich presiding.

Utility Board President Virgil Ellerbruch signs the state contract on SDSU telephones as Craig Osvog, general utilities manager, and James Adkins and James Lee, telephone department, look on.

board concept, the only other city in South Dakota functioning under utility board management was Watertown, which had chosen to operate under a utility board shortly after South Dakota statute permitted it. Brookings and Watertown continue as the only South Dakota towns directing utilities under a utility board system.

With little precedent to guide it, the Brookings utility board moved ahead on the basis of instinct and common sense. Still, it was difficult at first for members to come to terms with the broad degree of power they suddenly possessed. Equally difficult was the change for Brookings citizens when they realized they had lost the power to reverse board decisions by referendum and to remove someone from the board by means of the ballot box. Their only recourse, if disgruntled with board decisions, was to do away with the board in a public election. In 1978, eight years after it had been established, some citizens did try that course, but Brookings electorate showed their support by voting to retain the board.

Boyce Smith, former city auditor, recalled the early utility board meetings. At the first few meetings, Smith was an unofficial consultant on legal limitations and procedures. In those early days, board members had a "lot of questions about procedures—what they could and couldn't do," Smith said. Citizens too had questions.

"The public had a difficult time accepting the utility board because they could do things without—well, just do them, was all," Smith said. "So people would say, 'Well, don't we get to vote on this? Do they have authority to decide on a building?' I informed a lot of people that the only time citizens would be involved in the utilities would be to vote on bond issues."

It wasn't long before the utility board hired its own attorney to advise members on legal questions. George Mickelson, an attorney with the local firm of McCann, Martin and Mickelson, served as legal counsel to the board from 1968, when he came to Brookings, until shortly before he became governor of South Dakota.

AT FIRST THERE WAS A TENDENCY to look at the utility board as "Santa Claus." Here was a board that had money to proportion for city use *without* raising taxes. Requests came from all directions. The board took its cue from city commission policy, listening to every plea that came before it for funds and allocating money for specific purposes; but in 1981 it adopted a policy that called for a specific sum—a percentage of gross receipts—to be transferred to the general fund of the city. In this way, it removed itself from specific determinations as to how the money would be used by the city. Proposed uses had a bearing on

the amounts transferred by the board, but use of the funds was determined entirely by the city commission. This action had the desired effect of completely removing utilities management from political influence, a circumstance that has been acknowledged as one of the great advantages of utility board management.

JOSTLING FOR POSITION among the different utility services and a distinct competitive edge between services characterized the early years of the utility board. Gradually, as the board worked more closely with managers of the different services and the financial aspects of utilities became more centrally directed, the competitive stance was replaced with a more cooperative attitude.

In the 1970s the board moved to streamline the administrative structure of utilities. For the most part, the financial activities of the electric department, water, wastewater and telephone had been separate. Telephone in particular had operated independently. When Wes Hays, telephone manager, became utilities manager, he pulled the financial aspects of telephone more closely under utilities.

"That was the first step in the consolidated system we now have," said Virgil Ellerbruch, who served four years as president of the utility board and was in his 12th year in 1990 as a member of the board. "It was more a top administrative line from the general manager to the next level of management. There was a 10-year period of time, however, when there was no telephone manager. Inside and outside plant managers both reported directly to utilities manager Craig Osvog."

The utility board has worked well for Brookings, Ellerbruch believes, and one of the reasons is that "mayors have made thoughtful appointments and have tried to maintain a diverse board."

"There may have been a time when board members got into management too much and a time when they spent more hours on purchasing a ditch digger than on the big issues, but we've come to realize that our job is to set policy, not to micromanage," Ellerbruch said. "We set policy, then management carries it out. I think the board never forgets that it wants to provide the best service to the customer in a timely, reliable fashion at an economic rate. That's a pattern that has been followed all the way through."

ONE OF THE PHILOSOPHIES THE BOARD has adhered to is that modern equipment is essential for topnotch service. Because of rapidly advancing technologies, the nature of utility services is such that the future is always just around the corner. Ellerbruch cited telephone as an example.

Remembering

At first there was a tendency to look at the utility board as "Santa Claus." Here was a board that had money to proportion for city use without raising taxes. Requests came from all directions.

In 1981 the board adopted a policy that called for a specific sum—a percentage of gross receipts—to be transferred to the general fund of the city. At that point it became the responsibility of the commission to determine how it was to be used.

Wayne Hawley's five years of service to the utility board was recognized by fellow board members at his last meeting in 1990. From left, John Thompson, Virgil Ellerbruch, Tom Minor, Hawley and Jack Yankovich. Paul Rogers succeeded Hawley, and Ed Hogan succeeded Tom Minor on the 1990 board.

"We are setting aside millions of dollars now to buy the next generation switch. We don't even know for sure what that might be, but we know we have to do that. It's a pattern that has been followed all the way through. We do the very best we can to buy the best equipment – modern equipment that will make this system operate efficiently," he said.

EMPLOYEE RELATIONSHIPS, for the most part, have been smooth through the years, with no major problems arising.

The employees union was established in 1972, as a branch of the International Brotherhood of Electrical Workers (IBEW). The board and the union have always negotiated successfully in the matter of employee salaries and benefits. Of the 106 employees of Brookings Municipal Utilities in 1990, 85 were eligible for membership in the union. The number of members varies from year to year.

The board points with pride to employee relationships in general. "I know of no strikes or incidents of unrest in the history of Brookings Municipal Utilities," said Ellerbruch. He attributes this to a "serious and sincere" desire on the part of the board to be fair. "The board looks at what is happening in the surrounding area and in the state and tries to stay in line," he said.

CONSULTANTS have been used by the board as needed, but when they were required, the board usually turned to South Dakota State University expertise or to local professionals. For the most part, however, the board relied heavily on the abilities of utility employees.

"Professional qualifications of employees have risen steadily as services expanded. This was accomplished in the hiring process as well as training sessions and special educational opportunities provided to update employees' skills. A great deal of in-house expertise is now available," Ellerbruch said.

TELEMARKETING was a venture the utility board embarked on in 1987, investing $265,000. Brookings Municipal Utilities ran the operation until February 1989. When it became apparent that the city-government mode of operation did not lend itself to the telemarketing business, the board entered into a management contract with North Central and later with SITEL.

"We get a return on the operation through increased volume of telephone use through our telephone department," Ellerbruch said. "We make a little on the operation annually, but more importantly, it brings outside money into Brookings, we keep the telephone service here, and the business provides jobs for people. That's important to us."

CUSTOMER SERVICE, always a major concern for the utility board, was recognized as a specific management function in 1990. At that time, Nancy Savage, a 14-year utility employee, was named coordinator of customer services.

"I think that a department that concerned itself with customer relations was a result of a progression of things that happened in trying to serve the community in the best possible fashion," Ellerbruch said. "It's been a good decision."

Ribbon cutting ceremonies in 1987 at the opening of a telemarketing service located in the mini-mall area west of Sixth Street and Main Avenue.

1990 Brookings Utilities and Telephone

Top above, Brookings Municipal Utilities building, 525 Western Avenue, completed in 1971; above, Telephone building, 415 Fourth Street, remodeled several times, but on the site of the original building purchased in 1903; right, telephone remote, built in 1987 on Main Avenue south, designed to blend with architecture in the area.

1990 Brookings Waterworks and Wastewater

Above, Brookings Waterworks, east of Interstate 29, completed in 1973. Left, Waterworks north of Brookings on Highway 77. Below, views of Wastewater Treatment facility south and west of Brookings. Completed in 1981, the building was named Steve Kracke Center in 1984 in memory of a utilities employee who lost his life in a job-related accident at the plant.

Brookings Municipal Utilities
Dates of Interest, 1889-1939, First 50 Years

1900 – Dakota Central Telephone Co. provided telephone service to the city of Brookings.

Jan. 11, 1889 – First street light installed.

April 20, 1899 – Dakota Central Telephone rates – residential $1.00 Business $2.50.

June 1, 1901 – Steam whistle to blow at noon.

July 11, 1901 – Land bought for new power plant.

Dec. 12, 1901 – Four miles of new water main laid.

Nov. 19, 1902 – Local telephone office gets three new operators; others quit.

May 7, 1903 – Hydrants and street lights to be paid by tax levy.

June 10, 1903 – City buys telephone company for $18,000.

June 11, 1903 – Drinking fountains placed at Main Street and 5th Street.

Aug. 20, 1903 – New 8-page telephone book; two advertisers.

Aug. 27, 1903 – Water main extended to Masonic Temple southeast corner.

Sept. 27, 1903 – Public school to have steam heat from city power plant.

Oct. 22, 1903 – Telephone service commences at 6:20 a.m. daily.

Nov. 4, 1903 – 24-hour electric service starts.

Nov. 12, 1903 – City steam heating plant completed.

March 18, 1905 – Rural and city telephone lines connect.

Nov. 30, 1905 – Brookings schools getting city water.

July 1, 1909 – First electric washing machine in town owned by Mrs. Kelly.

Aug. 6, 1909 – S.D. Ag College buildings connected to city sewer.

Aug. 11, 1910 – Telephone wages: chief $40 a month; day operator $27.50 a month.

Aug. 3, 1911 – E.H. Beatty and C.D. Kendall get electric signs.

Oct. 12, 1912 – Brookings without lights and power for three days.

July 27, 1917 – Running water added to Park Hotel.

March 23, 1920 – Change from council to commission type of government.

Oct. 2, 1924 – Last of concrete poured for chimney at power plant.

Oct. 16, 1924 – Chimney at power plant finished and painted white.

July 8, 1926 – Work starts on heat tunnels from power plant.

Sept. 23, 1926 – Work started on new sewer for south side.

Nov. 10, 1927 – Electric Gong now being used at RR Crossing, Main Street.

Oct. 27, 1928 – Electric football scoreboard used first time.

Dec. 27, 1928 – New city ordinances accepted; first change in 50 years.

Feb. 18, 1932 – Half million gallons of water used for fighting Gamble store fire.

March 3, 1932 – Salvation Army dedicates building at 419 Fourth Street.

Nov. 17, 1932 – Streets to have Christmas lights and wreaths.

Nov. 5, 1934 – New filtration plant in operation.

July 24, 1939 – First overhead traffic light at Sixth Street and Medary Avenue.

Chapter 6 — The Future

CUSTOMER SERVICE is the key to the future, Utilities Manager Craig Osvog and utilities department heads believe. By keeping the focus on the customer, management expects to maintain quality service that will continue to earn the confidence of the people in Brookings.

"Our bottom line is what the customer gets back in terms of service and his assessment of the quality he gets for the money he pays," Osvog said. "We want to make sure we stay in line and actually do better than any alternative—such as an investor-owned utilities."

To ensure that utilities function smoothly and efficiently, management and the utility board update long-range plans annually. Although building and plant projects of the magnitude of those experienced in the '70s and '80s are not anticipated in the next 10 years, management knows that the possibility exists and plans for contingencies.

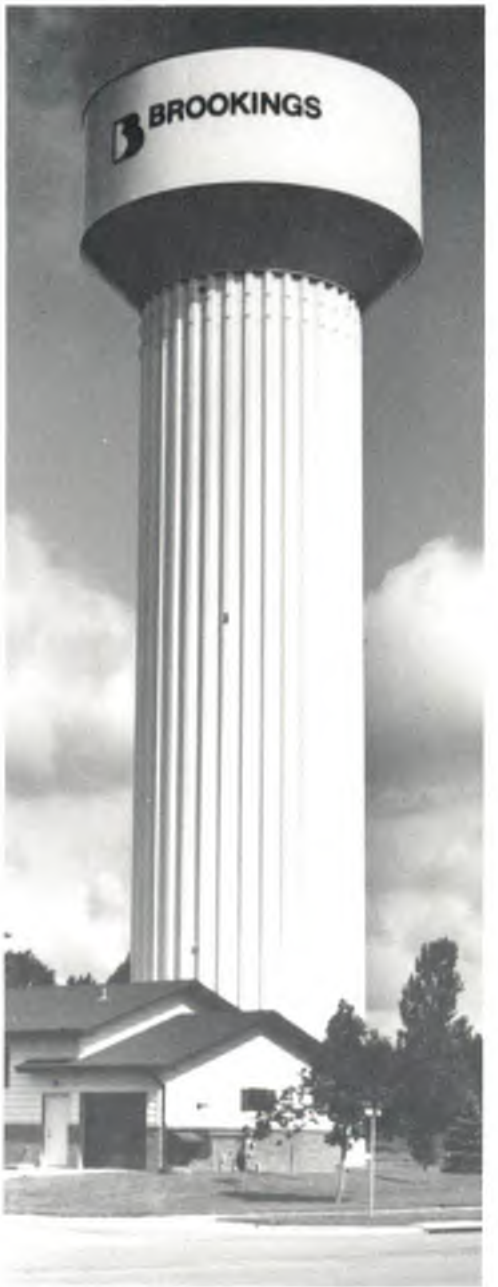
History demonstrates two major points: advancement in technology dictates most management decisions; and constant change is intrinsic to the business. There are no crystal balls to reveal what will happen even 10 to 15 years down the road. But planning is comprehensive and utilizes all available intelligence. As a result, management is confident as it looks to the future.

What then are the greatest challenges? "Keeping up with the rapid pace of technology and the changes in public policy reflected in both regulatory and deregulatory measures," Osvog and department heads say.

As the 1980s came to a close and department heads looked toward the 1990s, each reflected on the department he directed.

THE GREATEST CONCERN in Andrew Jensen's jurisdiction of water, wastewater and electricty "will probably come in water," Jensen believes.

"The next 10 years will bring more restrictions and requirements on testing," he said. "That will mean additional costs in time, equipment and personnel. Still, Brookings is very fortunate in its geographic location. We don't have to struggle over supply, as many communities do."



Fourth water tower built in Brookings on Main Street in Indian Hills area.

—Andrew Jensen

"Our greatest concerns will come in water. The next 10 years will bring more restrictions and requirements on testing. That will mean additional costs in time, equipment and personnel."

—James Adkins

"As business and individual consumer needs for the exchange of information and services expand, an increasingly sophisticated telecommunication infrastructure will evolve."

—Steve Meyer

"The Federal Energy Regulatory Commission and the FCC set standard rules for each department. While there are no planned changes in the immediate future, automation probably has had the greatest impact on accounting procedures, and will continue to do so."

In wastewater, the department is on track to meet added EPA regulations for pretreatment, Jensen says. "As for power, we will be looking to Missouri Basin to supply our power needs for the next 10 years. After that we will have to make a decision as to whether to build a plant or continue to buy power."

CHANGES IN THE TELEPHONE INDUSTRY have been "tremendous" over the past 25 years and will likely accelerate in the future, James Adkins, telephone manager, said. "Progressing from mechanical switching in the '50s to electronic in the '70s, to digital in the '80s, and to photonic switching by the late '90s or early 21st century demonstrates the maturation of the telecommunications industry. As business and individual consumer needs for the exchange of information and services expand, an increasingly sophisticated telecommunications infrastructure will evolve. The telecommunications industry will have to become more responsive to customer needs and be able to deploy new products and services in a more expedient manner than in the past."

"By 1992 we'll be cutting over to equal access, and one of the initial challenges we'll have to face is our entrance into the new signalling network," Adkins said. "That will be a big change for us. The question is where do we place our company in that hierarchy? There's a whole technology out there called personal communications services. We face a raft of different uses there, and decisions will be dependent on many factors—technology, regulation, consumer acceptance, demand. Those are hard things to predict."

ACCOUNTING PROCEDURES have undergone numerous changes through the years. Billing, for example, has moved back and forth from an internal operation to contracts with accounting services outside the city. By 1985, however, it had come full circle and was back in Brookings, handled entirely within the utilities accounting department. There are no plans to change that in the future, says Steve Meyer, finance and accounting manager.

"The Federal Energy Regulatory Commission and the Federal Communications Commission set standard rules for each department—electric, water, wastewater and telephone," Meyer says. We're very restricted in how we share in long distance settlement revenues, how we are allocated funds. Telephone billing is further complicated by the billing we do for other carriers."

An IBM system was installed in 1985. It uses software from Data Products Inc. and Cameo. "Automation probably had the greatest impact on accounting procedures, and will continue to do so," Meyer says.

A COLORFUL PAST, A PROUD HISTORY. That describes Brookings utilities, Osvog believes. But as the utilities manager looks toward the future, he is cognizant of the increasing complexities of utilities management.

"Twenty years ago there wasn't an EPA, there wasn't divestiture; electronics was the big thing. You were doing things about the same way you had done them for the past 60 years. But now there are so many new technologies coming on line and you have to decide which one to jump on. Cellular is an example. We are a partner in a local operation, but we could have gotten into it much, much deeper, spending millions of dollars. Should that technology be outmoded in 10 years, we could have lost millions."

"While we are cautious planners, that doesn't stop us from being progressive in our viewpoint. There is every reason for optimism as we start the second 100 years as a municipally owned utilities service," Osvog said.

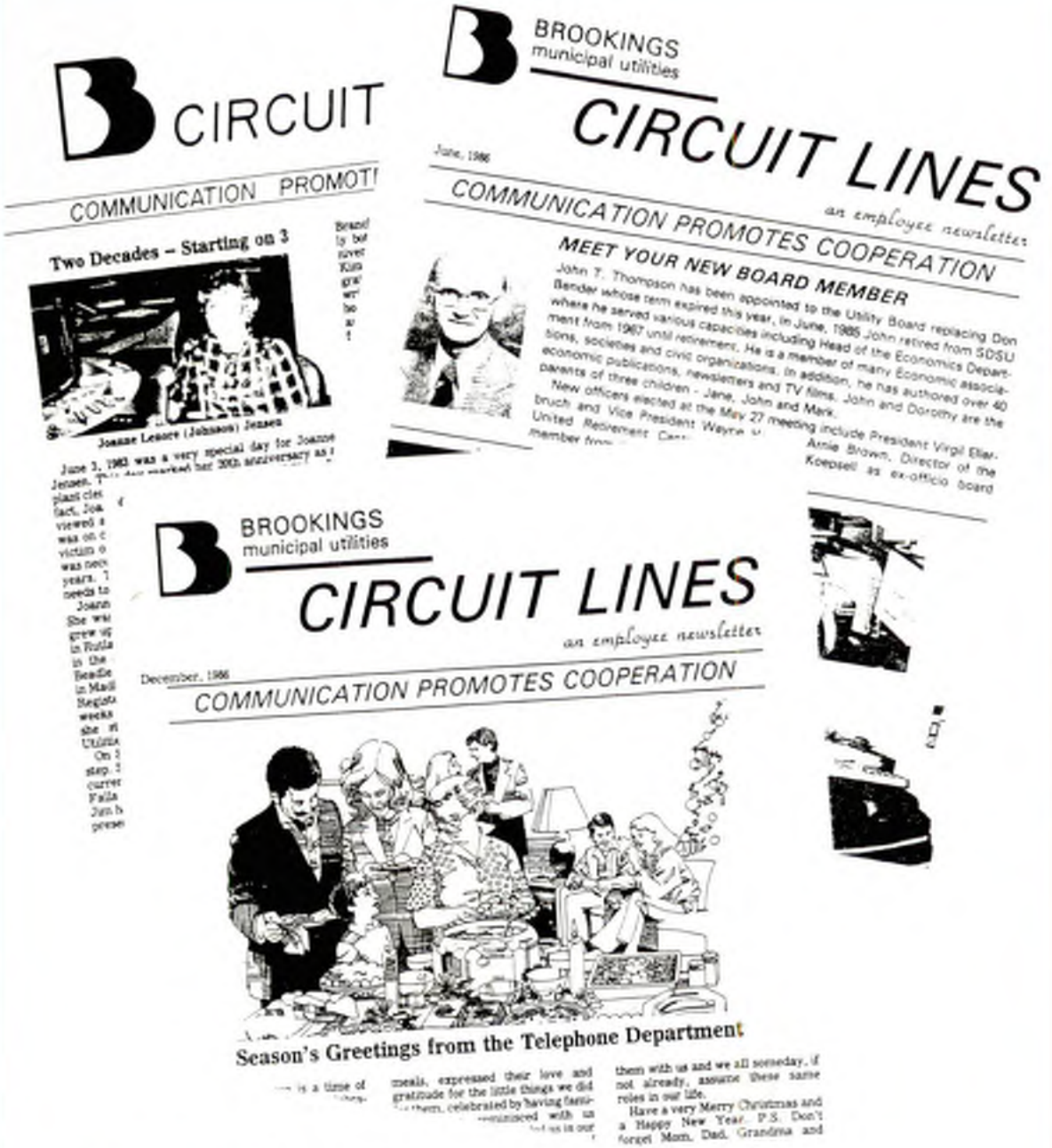
Brookings Utilities will continue to live up to the high standards expected of it, the utilities manager pledges.

"We are confident that the title chosen for this book, 'By the People, For the People,' will still express the underlying principle of utilities services when the next 100 years of history is recorded."

—Craig Osvog

"Our bottom line is what the customer gets back in terms of service and his assessment of the quality he gets for the money he pays. We want to be sure we stay in line and actually do better than any alternative—such as an investor-owned utilities."

Aerial view of wastewater treatment plant completed in 1981.



'Circuit Lines' kept employees informed

The first issue of Circuit Lines was published in May 1983. The objective stated was to "publish a newsletter periodically to inform all employees of happenings throughout the utilities."

"Because our plants were so scattered, it was an attempt to keep employees informed about what was going on," said Eunice Colburn, who edited the publication until her retirement.

Each issue included a personal slant, Colburn said. "Departments or individuals were featured in each issue, and birthdays, anniversaries and special events were noted."

"I think people liked it, and I felt it brought us closer together," Colburn said.

Acknowledgements

Eunice Colburn

Dedicates countless hours, enthusiasm

Brookings is unique in that there are not many towns of any size that own the majority of their utilities.

I am proud of utilities' contributions to the city, and I had often thought that we should do something about recording the history of our services. Bits and pieces of information about the different departments were scattered in many different areas, but nothing brought it all together.

I approached management about this, and they gave me their approval to start getting the material together for a history.

Research has been extensive. It began with a review of newspapers from 1884 through 1990 to collect information about all facets of our departments.

George Norby allowed me to use his copies of old newspapers and photographs of utility operations. I also arranged interviews with people who were important in various phases of our growth.

Research at the City Library included archives for meetings of the old council and utility board. City hall personnel generously provided access to their records for statistical information. Eight large binders of information were gathered, plus photographs from a number of former employees and townspeople.

Charles Shea, who retired as telephone manager in 1955 after 40 years in the position, left a brief account of the early years as he remembered them, and Dorothy Bishman, utilities office manager, had gathered a folder of valuable historical information. Annual reports and graphs were also an important source of information.

I sent questionnaires to more than 75 former employees, asking for any input they might have, including photos. All current employees were given the opportunity through a questionnaire to contribute pertinent information.

Eunice Colburn, who took on the job of utilities historian at the time of her retirement in 1990, worked primarily with newspaper files to trace utilities history. By the time Colburn had compiled files, collected photos, arranged interviews and worked with the book's author, she had logged hundreds of hours.

It was hard work gathering all the material, but I had a wonderful time as I relived many of my experiences as a telephone operator.

I believe the results of these labors—this book, "By the People, For the People, a history of Brookings Municipal Utilities"—leaves a record that will reveal to present and future generations the significance and value of city ownership of utilities.

—Eunice Colburn

Design

Planning Committee

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Russ Christensen Telephone Cable
Rick Swoboda Utilities Engineering Technician

Cover Design

James Taggart

Text Design

D. J. Cline

Local historian contributes records newspaper clippings to utilities history

Mayor Orrin Juel presents George and Evelyn Norby a plaque to recognize their contribution in collecting and preserving Brookings history.

George Norby is a storehouse of information about Brookings. The answers to many questions come off "the top of his head," but if there isn't instant recall, he knows whether to go to his attic or his garage for the original record. Both spots are crammed with files of local newspapers, meticulously preserved in filing boxes labeled by years. The collection dates from the 1800s.

Norby and his wife Evelyn acquired many of their newspapers when the *Brookings Daily Register* building on Fourth Street and Fifth Avenue was torn down. At that time the contractor found bundles and loose files of newspapers.

"They were going to haul them out to the dump ground," Norby said. "I told them to haul them over to my garage. But a lot of stuff got thrown away before I got to it."

Fortunately, Norby saved most copies of the *Brookings County Press* and the *Brookings Register*.

Eunice Colburn, relied heavily on Norby's files for clippings and information about utilities. "Many of the early photos in this history are those Norby saved from a resting place at the dump," she said.

Acknowledgements

As I finished this history for Brookings Municipal Utilities and looked back to the time when I accepted the assignment, I was struck with the difference between what I had expected and what I actually experienced. The writing task that I thought would be easy was far more difficult than I anticipated. Research material that I thought would be lifeless was instead colorful.

My greatest frustrations came from dealing with research material and photos in which dates and identifications were often missing. My greatest pleasure came in the people I met in this research material. I soon found myself absorbed in the account of these ordinary men and women struggling under difficult circumstances to provide essential services in the best way they could manage. I took pleasure in seeing many of them become experts in their special fields.

I am indebted to many but especially to utilities employees, past and present, who gave freely of their time to talk with me about their experiences and help clarify points. I was impressed with the friendly way in which those still on the staff accepted interruptions in their work days. I became convinced that all utilities employees start the day with a "pleasant pill."

At the risk of omitting some deserving person, I want to express gratitude to those who were extraordinarily helpful. Among these are Wesley Hays, who talked with me about his years in utilities, read early copy, and put me straight on many details; James Nass, who pulled me out of utter confusion and helped me fight my way through the mysteries of water and wastewater; Walt Hayes, whose recollections and infallible memory contributed so much to the electricity section; John Wirtz, who patiently assisted in selecting and identifying photos; former utilities employees Verna Graves, Lawrence Sorenson, Charles Chester, Lois Peterson and Fritz Mailey, who took time to reminisce; current utilities employees James Adkins, Derald Bauman, David Felton, Robert Gaard, Tom Honkomp, Gary Huisken, Andrew Jensen, Duane Kruse, James Lee, Steve Meyer, Buck Nielson and Roger Seas, who shared information and memories; and Nancy Savage, who unfailingly found answers to problems.

A special thanks to Craig Osvog, who thoughtfully perused each section, and to Virgil Ellerbruch, who shared memories of his many years on the utility board.

Outside the utility family, credit goes to Dr. James Dornbush, retired SDSU engineering professor; Dr. J.O. Storry, retired Dean of the SDSU College of Engineering; Orrin Juel, former mayor of Brookings; Boyce Smith, former city auditor and secretary of the utility board; Lillian Halvorson Williams and R.J. Perry, former Bell employees; and George Norby, local historian, who often from the flimsiest of clues, found exactly the supporting evidence or photo I needed. Their assistance was invaluable.

From the past, I thank William Gamble, who left so much history of utilities in his effort to keep Brookings people informed through the local press; Charles Shea, who left written records of early telephone

years; and the two newspapers—*Brookings County Press* and *Brookings Register*—whose consistent and detailed coverage of utilities through the years yielded a wealth of historic data.

Without the family photos provided by Wayne Waltz, whose family was associated with early telephone history, and Dennis Merchant, former utilities employee, there would have been few photographic records of the early years.

On a personal level, I am especially grateful to Ruth Laird, Laurie Seefeldt, my brother, Robert Hawkins, and Beth Felton for their professional help and encouragement.

Finally, my gratitude goes to Eunice Colburn, whose contribution to this book is beyond measure. She was always there for me, providing special information, arranging interviews, digging deeper into files. Her enthusiasm and excitement whetted mine.

—D. J. Cline

About the author

D.J. (Dorothy) Cline is a retired South Dakota State University professor. She is a free-lance writer and editor in Brookings. Her husband, Francis, is a retired businessman. The couple have two sons—Dean, who lives in South Carolina, and Ward, a resident of Brookings.

Supplementary

Brookings Municipal Utilities

Utilities General Managers

1974-1980	**Wesley Hays**
1980-	**Craig Osvog**

Superintendents, Engineers and Managers

1886	**Campbell** Superintendent
1891-03	**E. G. Davis** City Engineer
1903-06	**Fred Swanson** City Engineer
1907-08	**O. R. Aanes** Superintendent of Light and Power
1909-20	**A. W. Morton** Superintendent of Light, Heat and Power
1920-30	**E. W. Hyde** Manager Light, Heat and Water
1930-53	**Thomas Newell** Manager Light, Heat and Power
1954-55	**Elmer Thon** Superintendent Light, Heat and Power
1955-57	**Elmer Thon** Chief Engineer
1957-71	**Elmer Thon** Plant Superintendent
1971-80	**Rolland Harrington** Superintendent Water, Sewer, Heat
1971-80	**Greg Sherman** Line Superintendent
1980-81	**Andy Jensen** Superintendent of Electric Department
1981-	**Andy Jensen** Superintendent Water, Wastewater, Heat and Electric

Telephone Managers

1903-4	C. H. Kight	1955-61	Chas. O'Neill
1904-5	Fred Lawshe	1961-79	Wes Hays
1905-8	R. E. Rebman	1979-81	Richard Smith
1908-10	P. W. Waltz	1981-82	Geo. Olesen
1910-11	A. W. Morton	1982-90	Craig Osvog
1911-55	Chas. D. Shea	1990-	Jim Adkins

Utility Board Members
1970 - 1990

1970 - 1970	John Lagerstrom
1970 - 1970	Steve LeFevre
1970 - 1974	Harold Sand
1970 - 1979	Dave Pearson
1970 - 1980	Don Holm
1971 - 1975	Frank Fitchen
1971 - 1976	V. L. Kodis
1972 - 1980	Robert Reimers
1974 - 1979	Homer Osvog
1976 - 1981	Roger Berger
1978 -	Virgil Ellerbruch
1979 - 1980	Roger Prunty
1980 - 1981	Donna Burns
1980 - 1985	Len Santema
1981 - 1984	Ron Reed
1981 - 1982	Jim Kessler
1981 - 1986	Don Bender
1982 - 1987	Glen Carver
1984 - 1989	Wayne Hawley
1985 - 1990	Jack Yankovich
1986 -	John Thompson
1987 - 1990	Tom Minor
1989 -	Lynn Anderson
1990 -	Paul Rogers
1990 -	Edward Hogan

Mayors of Brookings City
incorporated in 1881 as Village

R. S. Hadley	First Mayor
1882-1882	A. A. Aiken
1883-1884	G. A. Mathews
1885-1887	Natwick
1887-1889	G. A. Mathews
1889-1890	W. H. Roddle
1898-1891	John Diamond
1891-1894	G. J. Coller
1894-1895	Philo Hall
1895-1897	A. W. Hyde
1897-1903	G. A. Mathews
1903-1905	John Jenkins
1905-1907	Frank Kramer
1907-1909	H. B. Mathews
1909-1913	W. H. Leighty
1913-1915	C. A. Johnson
1915-1917	H. B. Mathews
1917-1920	W. H. Leighty
1920-1925	T. I. Flittie
1925-1930	C. O. Trygstad
1930-1935	I. B. Johnson
1935-1939	Charles Gnukel
1939-1952	Homer Dwiggins
1952-1954	Lyle Cheever
1954-1960	Homer Dwiggins
1960-1962	Oliver Gottschalk
1962-1964	Homer Dwiggins
1964-1970	Forest Frie
1970-1975	Orrin P. Juel
1975-1980	Orrin P. Juel
1980-1985	Roger Prunty
1985-1990	Gail A. Robertson
1990-	Orrin P. Juel

Compiled by George Norby, Brookings

City Government

1881 to 1884—Three councilmen and mayor
1884 to 1901—Four councilmen and mayor
1901 to 1920—Four wards, two aldermen per ward and mayor
1920 to 1950—Two commissioners and mayor
1950 to 1970—Four commissioners and mayor

Utilities

1970 to —Utility Board

Councilmen, Aldermen, Commissioners

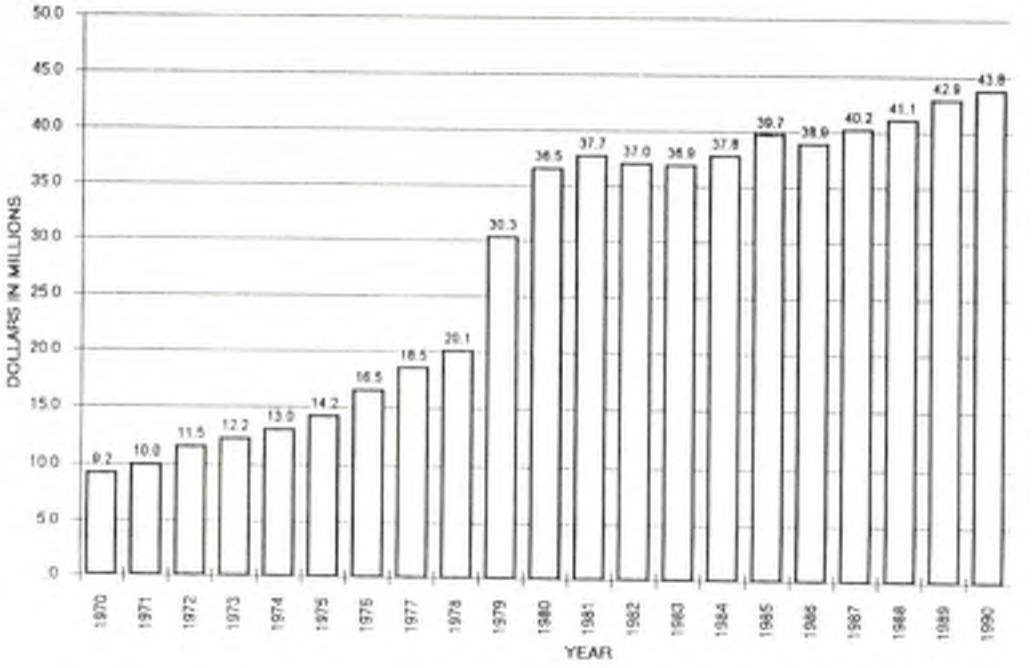
W. H. Williams	1881-1885	H. B. Mathews	1901-1902
Horace Fishback	1881-1883	W. A. Caldwell	1901-1905
G. A. Mathews	1881-1883	H. C. Johnson	1901-1905
W. G. Lockwood	1883-1884	F. C. Neil	1901-1906
W. W. Brooke	1883-1884	George Bishman	1901-1903
W. G. Lockhart	1884-1885	L. H. Skiff	1901-1902
William Anderson	1884-1885	W. H. Hawley	1901-1902
A. J. Dox	1885-1891	William Micholson	1902-1904
C. M. Durley	1885-1888	E. K. Eyerly	1903-1905
F. J. Adams	1885-1901	L. G. Brost	1904-1905
A. B. Allison	1885-1887	C. A. Skinner	1904-1905
W. H. Roddle	1887-1890	U. D. Palmer	1905-1907
Wm. M. Brooke	1888-1891	H. H. Hoy	1905-1908
Burre H. Lein	1890-1891	J. G. Olyoe	1905-1909
H. T. Odegard	1891-1892	W. H. Leight	1905-1908
J. T. Tidball	1891-1892	Sven Hanson	1905-1908
J. H. Olberg	1891-1893	Thomas Alton	1905-1907
G. W. Pond	1891-1892	James P. Olsen	1905-1907
C. H. Collins	1892-1893	A. A. Harris	1907-1909
E. H. Childs	1892-1893	W. H. Conklin	1907-1909
Frank Sherwin	1893-1894	A. P. Nord	1907-1909
J. T. Tidball	1893-1894	A. R. Hoover	1908-1914
G. W. Pond	1894-1896	Henry Swering	1908-1912
I. N. Lawshe	1894-1895	J. L. Colegrove	1908-1909
George Morehouse	1894-1895	S. A. McElmurry	1909-1911
Thomas Alton	1895-1901	E. J. Ray	1909-1918
W. H. Dinehart	1895-1897	E. T. Bagley	1909-1912
George Stoddart	1896-1897	F. Sherwin	1909-1910
W. H. Skinner	1896-1897	O. O. Jermstad	1910-1914
I. N. Lawshe	1897-1900	H. H. Hoy	1911-1919
F. M. Kermer	1897-1902	F. E. Youngberg	1911-1915
J. A. Hooker	1900-1901	C. C. Bradbury	1911-1913

Councilmen, Aldermen, Commissioners – Continued

Dr. E. L. Moore	1911-1913
W. H. Conklin	1912-1914
J. H. Roberts	1912-1914
R. H. Bartelt	1913-1915
F. L. Simmons	1913-1915
W. H. Beals	1914-1919
I. B. Johnson	1914-1920
Andrew Gaukel	1914-1916
G. D. Cole	1915-1917
R. H. Anderson	1915-1916
R. A. Pilmer	1915-1917
H. Swering	1916-1918
O. O. Olson	1916-1917
B. H. Sayre	1916-1917
H. K. Halverson	1917-1920
A. L. Moberg	1917-1919
Charles Martinson	1917-1918
E. B. Willey	1917-1920
J. T. Randall	1918-1920
William Callahan	1918-1919
R. Matheny	1919-1920
John A. Lunden	1919-1920
F. W. Heintz	1919-1920
H. G. Williams	1919-1920
E. J. Ray	1920-1929
H. B. Mathews	1920-1924
F. M. Kremer	1924-1927
A. A. Harris	1927-1937
H. M. Crothers	1929-1941
G. E. Bishman, Jr.	1941-1950
Oscar Wetterberg	1937-1950
Dexter Artz	1950-1952
Leo J. Wiese	1952-1964
R. R. Bauret	1950-1953
Lyle E. Cheever	1950-1952
W. J. Burdett	1952-1959
Leo H. Monteith	1953-1963
Wm. H. Gamble	1950-1971
W. M. LeFevre	1959-1967
Allen O. Weichsel	1963-1965
George R. Little	1964-1969
Edwin Fuller	1966-1973
Paul Prussman	1967-1972
Manley E. Dotson	1969-1979
Robert Reimers	1970-1971
John R. Anderson	1971-1973
Sid Bostic	1972-1977
Clifford R. Hoeke	1973-1974
Paul Koepsell	1973-1987
Ronald Bjerke	1970-1983
Douglas Chittick	1977-1987
Robert Bates	1979-1983
Douglas A. Filholm	1983-1988
Gail A. Robertson	1984-1985
Donald Halstead	1985-1992
Betty Prunty	1987-1992
Arnold M. Brown	1987-1991
Barbara S. Murra	1988-1991

Compiled by George Norby, Brookings, S.D., from Brookings telephone books, The Brookings County Press, Brookings County Sentinel, Brookings Register and Brookings city publications.

Total Assets of Brookings Utilities



Utility Statistics

Telephone

	Telephones	Long Distance Calls
1941	1,986	39,630
1951	2,841	95,404
1961	4,090	129,695
1971	8,725	487,339
1981	13,577	1,500,000
1990	3,932	2,965,787

Water Usage

1961	321,242,000 Gals.
1971	515,972,000 Gals.
1981	626,106,810 Gals.
1990	648,949,810 Gals.

Electric-Kilowatt Hours

1941	15,524,760
1951	13,909,500
1961	22,186,064
1971	52,786,864
1981	121,110,764
1990	155,688,336

Wastewater Treated

1961	348,256,062 Gals.
1971	412,457,100 Gals.
1981	638,843,000 Gals.
1990	746,185,000 Gals.

BROOKINGS MUNICIPAL UTILITIES
COMBINING BALANCE SHEET
FOR THE YEAR ENDED DECEMBER 31, 1990

ASSETS

	Electric	Telemarketing	Telephone	Wastewater	Water	Total
CURRENT ASSETS:						
Cash in Banks	$ (452,720.95)	$ 595.89	$ (121,794.45)	$ (51,802.80)	$ (18,980.89)	$ (644,703.20)
Petty Cash	550.00	.00	675.00	150.00	150.00	1,525.00
Savings Certificates	2,069,000.00	165,000.00	4,430,000.00	492,655.00	314,000.00	7,470,655.00
Restricted Assets:						
Customer Deposits	15,903.66	.00	21,763.52	210.96	113.60	37,991.74
Bond Escrow	.00	.00	.00	267,345.00	.00	267,345.00
Receivables:						
Contracts	.00	.00	84,622.09	.00	.00	84,622.09
Capital Credits	172.00	.00	3,397.14	62,002.37	.00	65,571.51
Miscellaneous	.00	.00	166,377.94	.00	.00	166,377.94
Interest	70,380.80	1,906.72	109,154.40	13,752.18	3,182.06	198,376.16
Consumers Accounts	581,522.67	.00	557,035.30	114,692.20	72,790.83	1,326,041.00
Unbilled Receivables	383,600.00	.00	145,008.00	58,000.00	43,000.00	629,608.00
Est Uncollectible Receivables	(5,400.00)	.00	(8,400.00)	(1,450.00)	(1,000.00)	(16,250.00)
Due from Other Funds	46,020.34	8,297.37	12,675.20	194.61	5,199.27	72,386.79
ATT	.00	.00	139,557.65	.00	.00	139,557.65
Neca & US Intelco	.00	.00	20,771.80	.00	.00	20,771.80
Prepaid Accounts	4,057.20	140.00	.00	.00	.00	4,197.20
Materials & Supplies	198,106.43	.00	401,169.05	62,767.48	121,135.77	783,178.73
Deferred Charges	.00	.00	23,327.61	.00	.00	23,327.61
Total Current Assets	$ 2,911,192.15	$ 175,939.98	$ 5,985,340.25	$ 1,018,517.00	$ 539,590.64	$10,630,580.02
NONCURRENT ASSETS:						
Investments:						
Cellular Partnership Stock	$ .00	$ .00	$ 17,648.69	$ .00	$ .00	$ 17,648.69
Notes Receivable – SDN	.00	.00	111,560.22	.00	.00	111,560.22
Advance to Capital Projects	.00	.00	303,105.97	40,448.00	55,190.12	398,744.09
Advance to Wastewater Fund	.00	.00	24,441.04	.00	.00	24,441.04
Total Noncurrent Assets	$ .00	$ .00	$ 456,755.92	$ 40,448.00	$ 55,190.12	$ 552,394.04
FIXED ASSETS:						
Land & Improvements	$ 65,733.45	$ .00	$ 130,049.60	$ 73,604.35	$ 22,643.41	$ 292,030.81
Buildings & Structures	751,571.87	37,132.47	804,705.39	9,382,730.17	1,441,628.78	12,417,768.68
(Accumulated Depreciation)	(222,378.88)	(37,132.47)	(278,706.29)	(2,123,199.66)	(582,337.01)	(3,243,754.31)
Furniture & Equipment	64,862.09	11,305.00	1,091,104.17	97,849.91	3,996.74	1,269,117.91
(Accumulated Depreciation)	(40,061.80)	(4,126.01)	(488,692.96)	(97,076.91)	(2,998.01)	(632,955.69)
Machinery & Automotive Equipment	622,245.14	.00	472,985.38	147,150.86	206,335.04	1,448,716.42
(Accumulated Depreciation)	(283,318.24)	.00	(243,186.51)	(36,372.76)	(93,263.27)	(656,140.78)
Other Equipment	11,709,983.10	147,227.13	11,423,386.46	5,931,272.30	3,686,890.62	32,898,759.61
(Accumulated Depreciation)	(3,191,799.18)	(143,145.06)	(4,519,843.73)	(2,784,300.57)	(1,259,383.13)	(11,898,471.67)
Construction in Progress	79,038.09	.00	213,908.35	242,382.23	167,752.53	703,081.20
Total Fixed Assets	$ 9,555,875.64	$ 11,261.06	$ 8,605,709.86	$10,834,039.92	$ 3,591,265.70	32,598,152.18
TOTAL ASSETS	$12,467,067.79	$ 187,201.04	$15,047,806.03	$11,893,004.92	$ 4,186,046.46	$43,781,126.24

BROOKINGS MUNICIPAL UTILITIES
COMBINING BALANCE SHEET
FOR THE YEAR ENDED DECEMBER 31, 1990
Continued

LIABILITIES & EQUITY	Electric	Telemarketing	Telephone	Wastewater	Water	Total
CURRENT LIABILITIES:						
Accounts Payable	$ 164,515.37	$ 748.60	$ 867,751.97	$ 7,033.39	$ 15,012.23	$ 1,055,061.56
ATT Payable	.00	.00	134,086.83	.00	.00	134,086.83
Benefits Payable	15,366.87	.00	26,737.95	5,298.41	2,147.06	49,550.29
Sales/Excise Tax Payable	22,975.39	.00	14,469.29	.00	20.98	37,465.66
Wages Payable	3,413.56	.00	337.85	297.51	637.50	4,686.42
Due to Bridle Estates	.00	.00	.00	328.50	.00	328.50
Due to General Fund	36,115.05	.00	148,402.50	3,292.50	1,212.75	189,022.80
Due to Other Funds	16,878.11	.00	58,205.81	11,922.80	5,773.39	92,780.11
Interest Payable	.00	.00	.00	40,560.40	.00	40,560.40
Customer Deposits Payable	15,903.66	.00	21,763.52	210.96	113.60	37,991.74
Current Bonds Payable	.00	.00	.00	170,000.00	.00	170,000.00
Total Current Liabilities	$ 275,168.01	$ 748.60	$ 1,271,755.72	$ 238,944.47	$ 24,917.51	$ 1,811,534.31
LONG-TERM LIABILITES:						
Revenue Bond	$ .00	$ .00	$ .00	$ 1,500,000.00	$ .00	$ 1,500,000.00
Advance from Capital Projects	.00	.00	.00	24,441.04	.00	24,441.04
Total Long Term Debt	$ .00	$ .00	$ .00	$ 1,524,441.04	$ .00	$ 1,524,441.04
EQUITY:						
Retained Earnings	$12,191,899.78	$ 186,452.44	$13,776,050.31	$ 2,510,933.12	$ 3,473,131.47	$32,138,467.12
R.E. Reserved for Escrow	.00	.00	.00	267,345.00	.00	267,345.00
Contributed Capital	.00	.00	.00	7,351,341.29	687,997.48	8,039,338.77
Total Municipal Equity	$12,191,899.78	$ 186,452.44	$13,776,050.31	$10,129,619.41	$ 4,161,128.95	$40,445,150.89
Total Liabilities & Equity	$12,467,067.79	$ 187,201.04	$15,047,806.03	$11,893,004.92	$ 4,186,046.46	$43,781,126.24

BROOKINGS MUNICIPAL UTILITIES
COMBINING STATEMENT OF REVENUES AND EXPENSES
FOR THE PERIOD JANUARY 1 THROUGH DECEMBER 31, 1990

	1990 YEAR TO DATE					
	Electric	Telemarketing	Telephone	Wastewater	Water	Total
OPERATING REVENUES:						
Charges for Goods & Services	$ 6,419,356.73	$ .00	$ 4,863,282.47	$ 1,241,308.66	$ 852,732.84	$13,376,680.70
Other	206,082.65	.00	576,701.28	4,621.95	81,092.11	868,497.99
Total Operating Revenues	$ 6,625,439.38	$ 0.00	$ 5,439,983.75	$ 1,245,930.61	$ 933,824.95	$14,245,178.69
OPERATING EXPENSES:						
Personal Services	$ 825,681.89	$ .00	$ 1,442,251.86	$ 422,682.18	$ 499,476.83	$ 3,190,092.76
Contractual Services	17,935.24	334.60	1,558.64	103,250.83	5,665.53	128,744.84
Repairs and Maintenance	278,011.27	.00	393,294.08	97,782.37	250,624.09	1,019,711.81
Cost and Materials	3,902,634.75	.00	84,729.71	30,673.94	82,924.16	4,100,962.56
Heat, Light, and Power	8,494.69	.00	.00	143,830.21	70,381.28	222,706.18
Other Current Expense	102,180.91	20,217.07	423,230.61	100,842.79	87,433.88	733,905.26
Amortization	16,437.02	8,100.00	87,409.59	644.83	2,101.35	114,712.79
Depreciation	348,089.17	44,183.37	827,005.74	465,421.05	128,165.38	1,812,864.71
Total Operating Expense	$ 5,499,464.94	$ 72,835.04	$ 3,259,480.23	$ 1,365,148.20	$ 1,126,772.50	$11,323,700.91
Operating Income	$ 1,125,974.44	$ (72,835.04)	$ 2,180,503.52	$ (119,217.59)	$ (192,947.55)	$ 2,921,477.78
NON-OPERATING REVENUE (EXPENSE):						
Interest Expense on Bonds	$ .00	$ .00	$ .00	$ (102,618.30)	$ .00	$ (102,618.30)
Interest Income on Investments	198,745.18	5,529.51	360,264.52	57,943.85	34,612.34	657,095.40
Miscellaneous	25,589.68	.00	(113,044.90)	708.38	6,947.25	(79,799.59)
Total Non-Operating Revenue (Expense)	$ 224,334.86	$ 5,529.51	$ 247,219.62	$ (43,966.07)	$ 41,559.59	$ 474,677.51
Income Before Operating Transfers	$ 1,350,309.30	$ (67,305.53)	$ 2,427,723.14	$ (163,183.66)	$ (151,387.96)	$ 3,396,155.29
Other Financing Sources (Uses)						
General Fund Transfer	$ (349,003.00)	$ .00	$(1,628,023.00)	$ .00	$ .00	$(1,977,026.00)
School District Transfer	(61,989.31)	.00	(189,313.32)	.00	.00	(251,302.63)
Telemarketing Fund Transfer	.00	155,807.45	(155,807.45)	.00	.00	.00
Total Other Financing Sources (Uses)	$ (410,992.31)	$ 155,807.45	$(1,973,143.77)	$ .00	$ .00	$(2,228,328.63)
Net Income	$ 939,316.99	$ 88,501.92	$ 454,579.37	$ (163,183.66)	$ (151,387.96)	$ 1,167,826.66
Retained Earnings Beginning of Period	$11,252,582.79	$ 97,950.52	$13,264,701.28	$ 2,619,344.75	$ 3,598,399.12	$30,832,978.46
Adjustments:						
Prior Period Restatements	$ .00	$ .00	$ 56,769.66	$ .00	$ .00	$ 56,769.66
Equity Reclassification	.00	.00	.00	12,765.00	8,712.00	21,477.00
Depreciation-Contributed Capital	.00	.00	.00	309,352.03	17,408.31	326,760.34
Retain Earnings End of Period	12,191,899.78	186,452.44	13,776,050.31	2,778,278.12	3,473,131.47	32,405,812.12

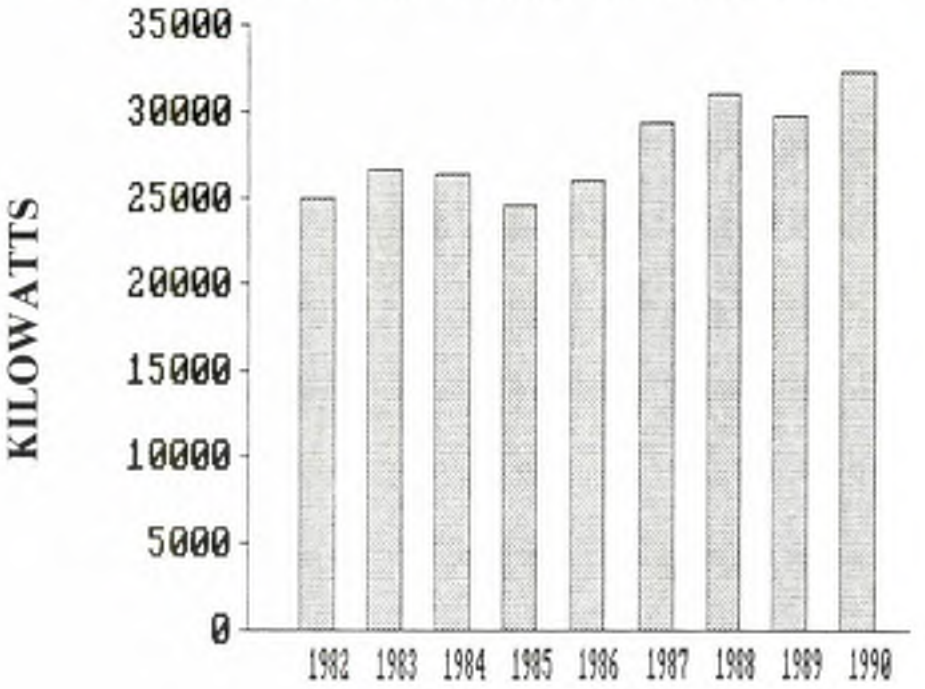
Transfer of Utility Funds to City General Funds or Other Funds 1960 - 1990

		Electric	Water Wastewater	Telephone	Total
1960	General fund transfer	$32,600		$ 3,500	$ 36,100
1961	General fund transfer	37,000		24,000	61,000
1962	General fund transfer	40,000		27,500	67,500
1963	General fund transfer	40,000		29,500	69,500
	Transfer to general for fire station	15,000			15,000
	Transfer to water/wastewater fund	250,000			250,000
	Transfer to new hospital construction			30,000	30,000
1964	General fund transfer	58,000		39,500	97,500
	Transfer to general for fire station	50,000			50,000
	Transfer to general for street improvements	50,000			50,000
	Loans to other city departments cancelled	455,000			455,000
1965	General fund transfer	81,000		58,800	139,800
	Transfer to general for fire station	150,000			150,000
	Transfer to water/wastewater fund	50,000			50,000
	C.D.'s transferred to w/ww fund	450,000			450,000
1966	General fund transfer	58,000		65,205	123,205
	Transfer to general fund salaries	7,250			7,250
	Transfer to city hall remodeling			10,000	10,000
	Transfer to general fund-airport			100,000	100,000
1967	General fund transfer	64,500		72,000	136,500
	Transfer to general fund salaries	7,500			7,500
	C.D.'s transferred to w/ww fund	200,000			200,000
1968	General fund transfer	87,000	3,000	87,000	177,000
	Transfer to 17th Ave. crossing	35,000			35,000
	Transfer to railroad crossing	10,000			10,000
	Transfer to overhead signals along highway	10,000			10,000
	Transfer to city hall remodeling	4,500			4,500
1969	General fund transfer	87,000	3,000	87,000	177,000
	Transfer to development of new rec fund	15,375		77,500	92,875
1970	General fund transfer	108,000	3,000	156,000	267,000
1971	General fund transfer	156,000		192,000	348,000
1972	General fund transfer	156,000		192,000	348,000
	Transfer to water/wastewater fund			200,000	200,000
1973	General fund transfer	156,000		244,000	400,000
1974	General fund transfer	268,000	75,000	204,000	547,000
	Transfer to general for industrial site			100,000	100,000
1975	General fund transfer	182,000		223,000	405,000
	Transfer to water/wastewater fund			25,000	25,000
1976	General fund transfer	182,000		273,000	455,000
1977	General fund transfer	202,000		273,000	475,000
1978	General fund transfer	202,000		323,000	525,000
1979	General fund transfer	227,000		348,000	575,000
1980	General fund transfer	253,000		422,000	675,000
1981	General fund transfer	508,000		916,000	1,424,000
1982	General fund transfer	475,806		1,361,364	1,837,170
1983	General fund transfer	533,352		1,472,419	2,005,771
1984	General fund transfer	502,160		1,327,305	1,829,465
1985	General fund transfer	415,323		1,107,343	1,522,666
1986	General fund transfer	435,685		2,610,245	3,045,930

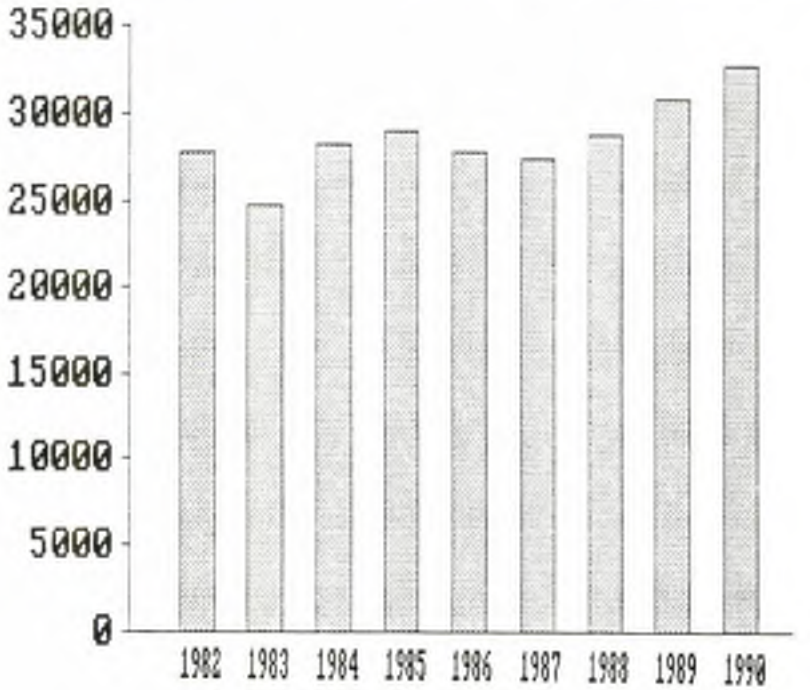
Transferring of Utility Revenues to City – Continued

		Electric	Water Wastewater	Telephone	Total
1987	General fund transfer	349,057		1,267,548	1,616,605
	Transfer to electric fund		500,000		500,000
1988	General fund transfer	377,557		1,408,437	1,785,994
	Transfer to telemarketing			151,322	151,322
1989	General fund transfer	370,907		1,680,974	2,051,881
	School district transfer	23,834		77,604	101,438
	Transfer to telemarketing			112,957	112,957
1990	General fund transfer	349,003		1,628,023	1,977,026
	School district transfer	61,989		189,313	251,302
	Transfer to telemarketing			155,807	155,807

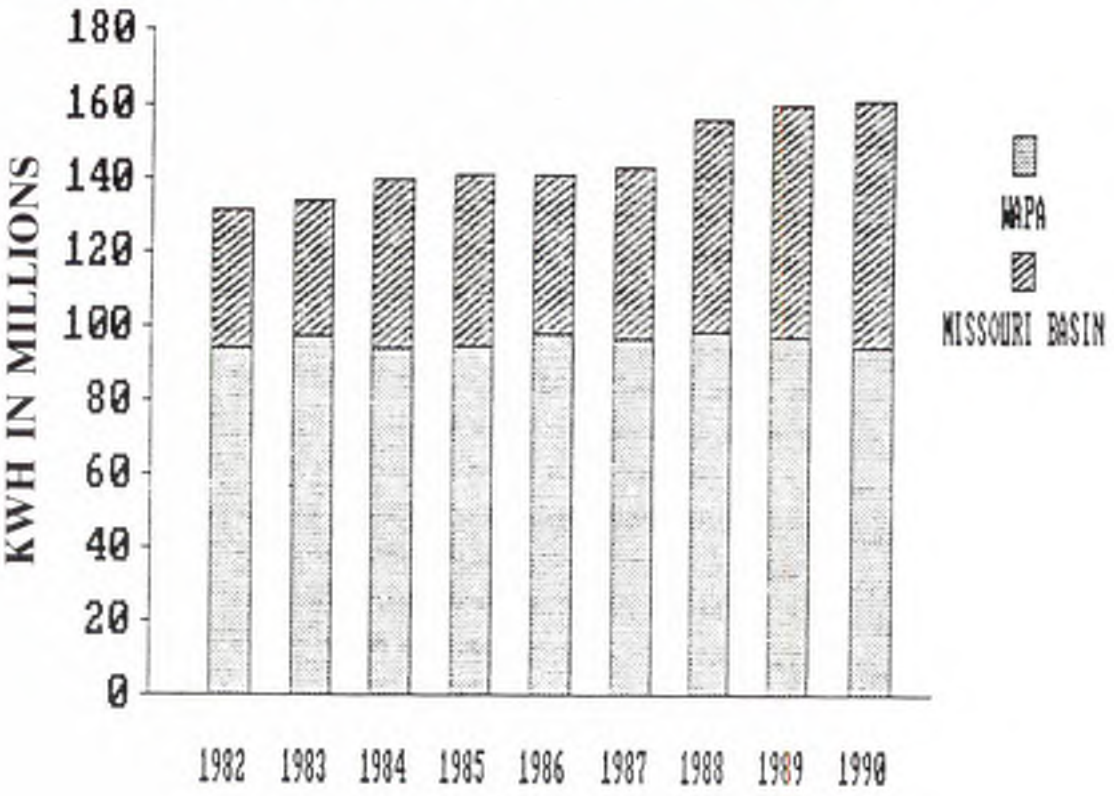
ELECTRIC PEAK DEMAND (SUMMER)



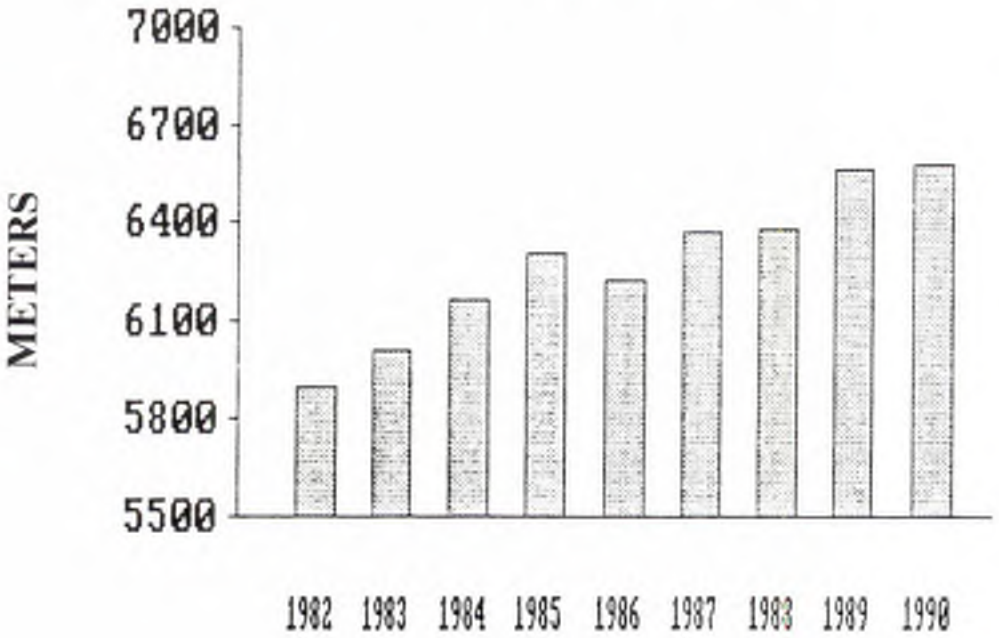
ELECTRIC PEAK DEMAND (WINTER)



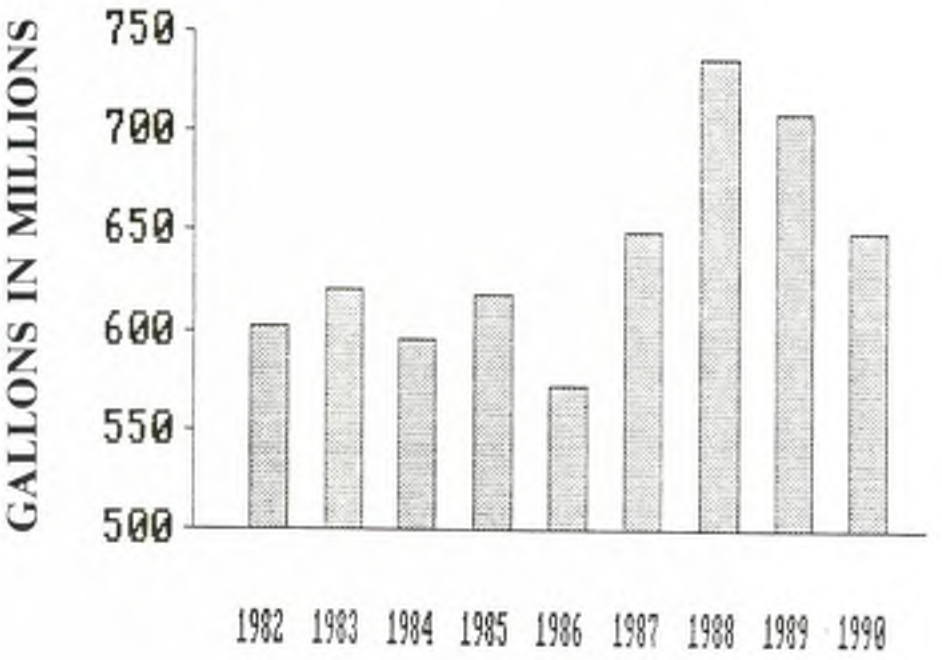
KWH OF ELECTRICITY PURCHASED



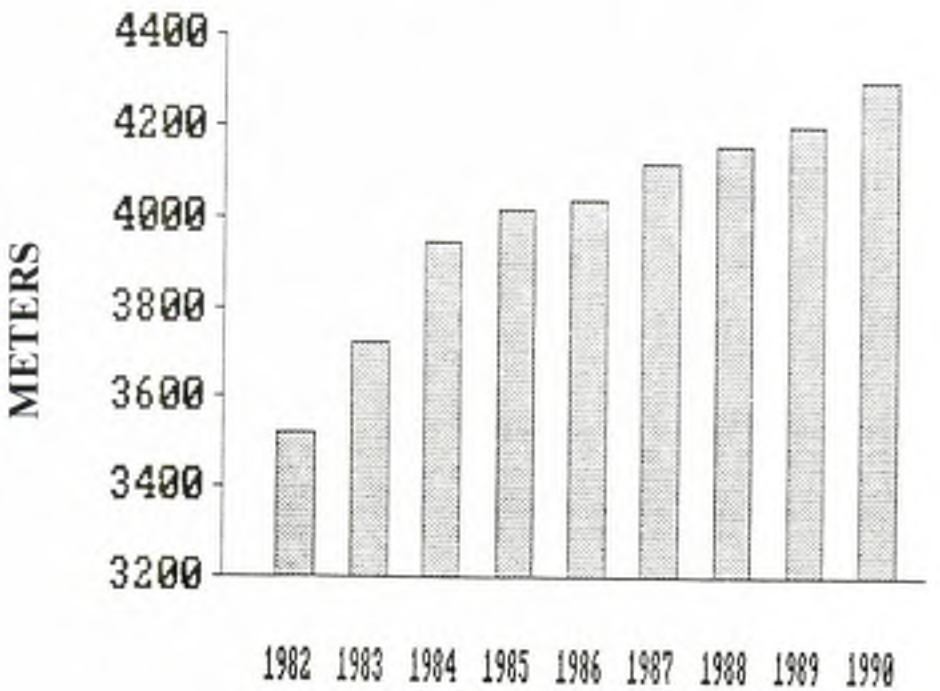
NUMBER OF ELECTRIC METERS



GALLONS OF WATER SOLD

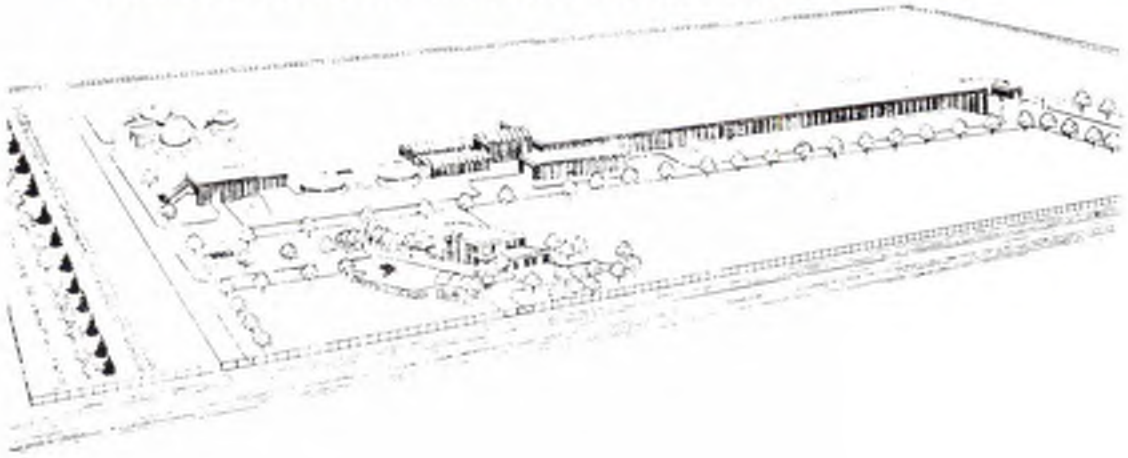


NUMBER OF WATER METERS

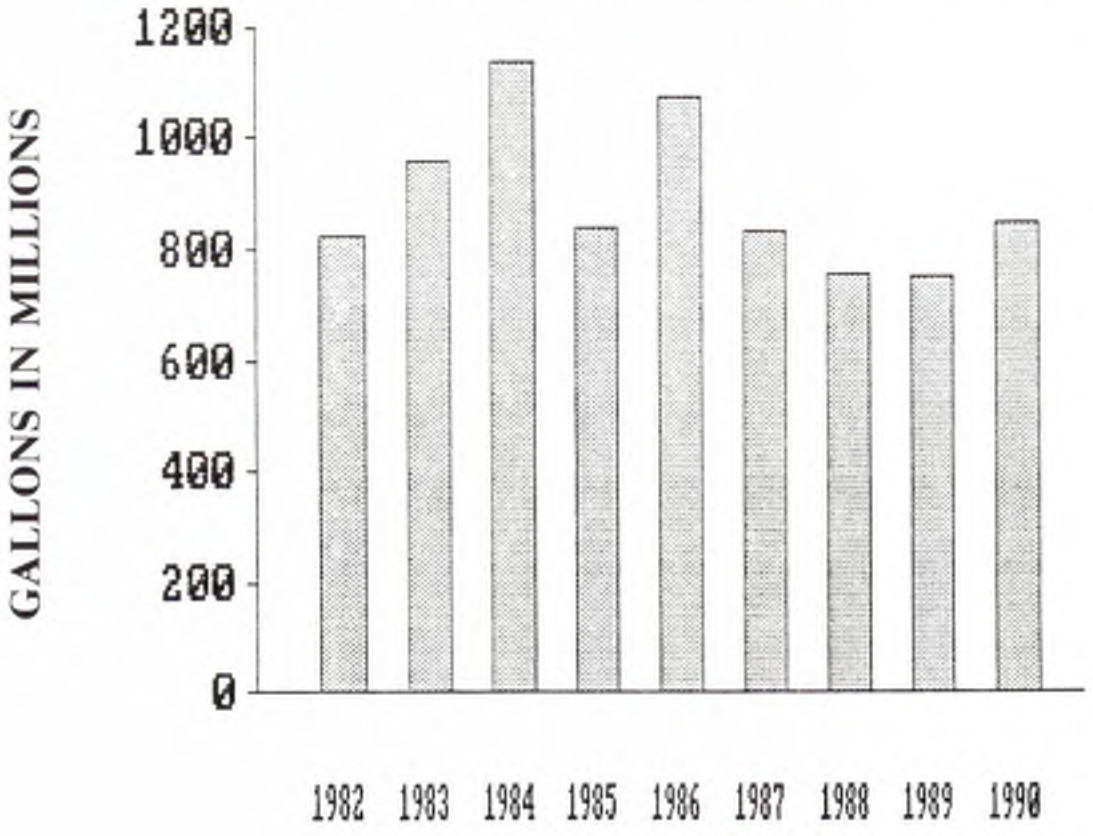


CITY OF BROOKINGS, SOUTH DAKOTA

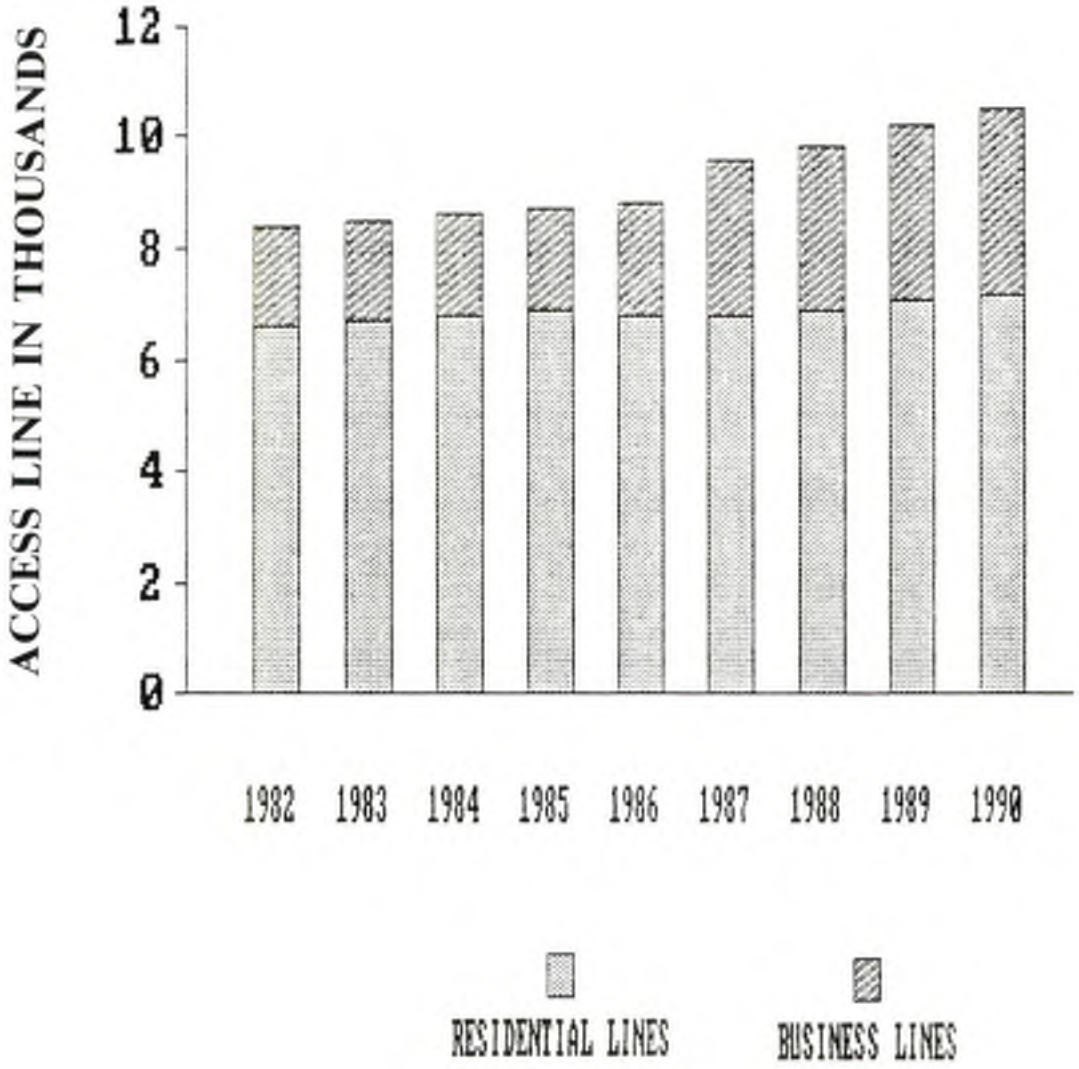
WASTEWATER TREATMENT FACILITIES



WASTEWATER TREATMENT PLANT INFLUENT



NUMBER OF TELEPHONE ACCESS LINES



Employees in advisory roles . . .

Research Integration Team, forerunner to the Steering Commitee, above. Clockwise from left, Deb Simet, Luanne Bebensee, Steve Bohlen, Steve Monteith, Dave Felton, Shirley Soden, Joanne Jensen, Kathy Weitala, Roger Seas, Lyle Reed.

Employer Advisory Committee, right. Seated from left, Becky Peterson, Jean Palm, Jean Stephenson. Back, from left, Mike Lund, Tom Honkomp, Rick Swoboda, Doug Herold. Not pictured, Jim Lee, Dan Rauscher.

1990 Full-Time Utilities Employees

Adams, Arnold	Wastewater Plant Operator II	03/11/85
Adkins, Jim	Telephone Manager	04/25/83
Anderson, Roger	W/W Collection & Maint. III	08/01/79
Bauman, Derald	Water Plant Operator III	09/01/59
Beach, Dorothy	Senior Collection Clerk	08/21/78
Bebensee, Luanne	Senior Billing Clerk	03/01/83
Bebensee, Marvin	W/W Plants Maintenance I	02/06/89
Bierscheid, Kami	Collection Clerk I	10/12/87
Billet, Sue	Billing Clerk	07/01/82
Bohlen, Steve	Key & PBX Technician	03/02/81
Bothe, Ron	Key & PBX Technician	11/01/72
Buskohl, Dale	Construction Foreman	08/01/67
Caldwell, Kelly	Custodian	08/01/89
Carlson, Dick	Inventory & Purchasing	01/05/70
Christensen, Russ	Cable Splicer	06/05/72
Colburn, Eunice	Public Relations Representative	12/15/60
DeBeer, Barb	Collection Clerk I	04/02/90
Dixon, Bruce	Inside Plant Supervisor	09/01/78
Duff, Deb	Billing Clerk	09/15/82
Eggen, Shirley	Accounts Payable Clerk	09/01/79
Englund, Gary	Admin. Pretreatment Program III	04/16/84
Felix, Doris	Customer Service Representative	08/24/77
Felton, David	Water Distr. W/W Coll. Supervisor	01/17/72
Foster, Annabel	Head Cashier	04/13/87
Froiland, Diane	Marketing Representative	09/01/79
Gaard, Robert	Marketing Director	03/29/71
Haaseth, Todd	Journey Lineman	05/22/81
Hansen, LouVena	Customer Service Representative	09/01/78
Harvey, Kevin	Plants Maintenance II	07/21/83
Henderschiedt, Dale	Journey Lineman	07/08/81
Heppler, Glen	Equipment Operator	03/01/84
Herold, Doug	Key & PBX Technician	12/13/78
Hildebrandt, Rick	Water Meter Maintenance	12/03/73
Hintz, Marlin	Water Meter Maintenance	12/20/65
Honkomp, Tom	Elec. Construction Supervisor	10/26/70
Howey, Dawn	Cable Engineering Assistant	12/10/90
Huisken, Gary	Elec. Maintenance Supervisor	08/19/70
Jensen, Andy	Utilities Manager	08/09/71
Jensen, Joanne	Plant Clerk	06/03/63
Jensen, Mike	Communications/Supply & Inventory	09/01/88
Julius, Laura	Accounting Supervisor	04/20/87
Kirby, Merritt	Data Processing Coordinator	07/11/83
Knutsen, Lori	Billing Clerk	03/21/83
Krier, Joe	COE Technician	12/22/69
Kriese, Jim	Construction Person	05/21/84
Kruse, Dwayne	Water/WW Plants Supervisor	08/22/58
Larson, Dave	COE Technician	03/13/78
Larson, Bob	Outside Plant Cable Engineer	12/19/66
Lee, Jim	Outside Plant Supervisor	10/02/78
Leech, Dave	MIS & Tariff Analyst	04/27/87
Leifgen, Karen	Telephone Billing Representative	08/17/70
Lenanuer, Jason	Custodian	10/22/90
Lund, Mike	Water Plant Operator III	02/01/81
Lutterman, Larry	Water Distribution II	01/04/88

Mahanke, Doug	Electrical Apprentice	05/11/87
McCord, Bonnie	Customer Service Representative	09/01/77
Meyer, Kelly	Plants Maintenance III	04/22/81
Meyer, Steve	Finance & Accounting Manager	09/09/86
Moad, Kevin	W/W Collection & Maint. II	01/21/80
Monteith, Steve	Inspector III	08/07/78
Mortensen, Keith	Maintenance Electrician II	01/04/82
Murfield, Scott	Apprentice Lineman	05/05/86
Nass, Jim	Utilities Engineer	01/02/73
Nelson, Pam	Computer Operator	07/24/89
Nielson, Buck	Installation Foreman	06/14/65
Osthus, Keith	Journey Lineman	09/10/75
Osvog, Craig	General Manager	09/01/80
Palm, Jean	Senior Plant Clerk	03/06/72
Pedersen, Bryan	Engineering Technician	01/01/86
Peterson, Becky	Executive Secretary	05/01/79
Peterson, Dennis	Station Installer	11/19/79
Peterson, Lois	Communications Clerk	09/11/67
Pickard, Robin	Collection Clerk II	08/15/83
Quail, Dave	Line Construction Foreman	07/06/72
Rauscher, Dan	Journey Lineman	05/27/75
Reed, Lyle	Maintenance Electrician I	07/11/77
Reuter, Tim	Journey Lineman	09/13/82
Roach, Steve	Water Distribution II	09/05/78
Roach, Tammy	Computer Operator	05/07/80
Robey, Rick	Station Installer	06/15/81
Roth, Reuben	Plant Maintenance Foreman	04/26/71
Savage, Nancy	Coord. of Customer Services	03/17/75
Schmidt, Don	Construction Person	08/28/84
Seas, Roger	Marketing Representative	10/17/83
Simet, Deb	Inventory Clerk	02/14/83
Smidt, Lyle	Line Maintenance Foreman	11/02/70
Soden, Shirley	Customer Service Supervisor	03/18/68
Stainbrook, Cal	Journey Lineman	09/10/79
Stephenson, Jean	Senior Accounts Payable Clerk	11/01/74
Stewart, Dave	W/WW Dist. Coll. Maint. Foreman	11/03/76
Stime, Sharon	Customer Service Representative	05/11/87
Stokes, Chuck	Construction Person	08/12/85
Swoboda, Rick	Engineering Technician	05/12/80
Telkamp, Gary	Water Meter Maintenance	08/06/90
Telkamp, Jeff	Construction Person	05/07/84
Telkamp, Terri	Senior Accountant	03/14/83
Theodosopoulos, A.	Accountant	09/29/86
VanderWal, Todd	Non-Certified Plants Maintenance	08/13/90
VanMaanen, Ken	Station Equipment Repairman	01/14/85
VanMaanen, Scott	COE Technician	03/19/79
Weitala, Kathy	Plant Clerk	08/01/86
Westergaard, Bruce	Journey Lineman	10/02/78
Weverka, John	Journey Lineman	10/15/74
White, Rex	Lead Engineering Technician	06/01/78
Wirtz, John	Plant Operations Foreman	11/01/71
Wenande, Kay	Telephone Revenue Analyst	01/09/89

INDEX

Brookings County Press and *Brookings Register*, referred to extensively, are not included in the index.

By the People, For the People

Brookings Municipal Utilities has a long, proud history of providing electricity, telephone, water and wastewater services to Brookings citizens. The city is one of only a handful in the United States providing all utility services. That makes the city unusual; but it is the confidence Brookings people have in their own ability to get the job done that makes Brookings Municipal Utilities exceptional. Demonstrating independence, ingenuity and enterprise, the men and women of Brookings Municipal Utilities built a dependable system that kept pace with demands through the years. *By the People, For the People* reflects not only the commitment of utilities employees but also the trust Brookings citizens have maintained in municipal services.