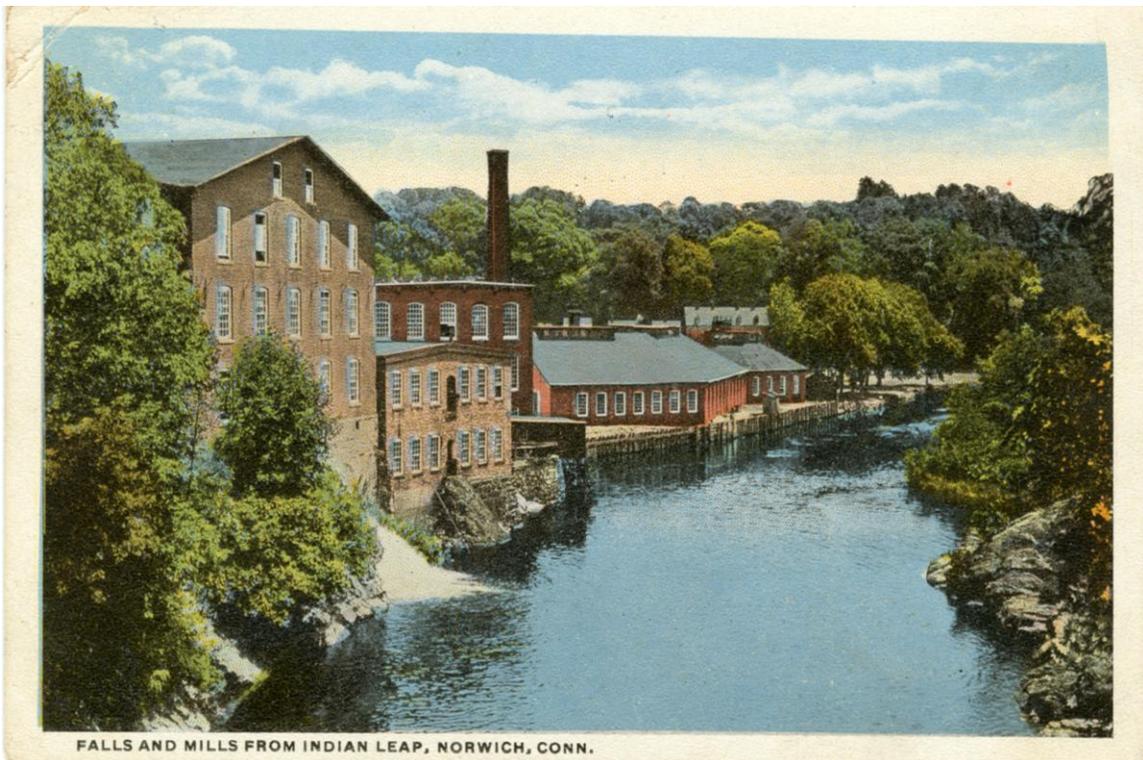


The Gas and Electric Early History

As the United States changed from an agrarian society to an industrial economy, changes evolved that required entrepreneurial skills never found before. Previously, commerce sailing out of Norwich played an important role in the development of the city when the earliest steamboat connections were established from Norwich to New York in 1816. The old Norwich Line steamboats sailed out of Norwich to New York and other destinations from 1845 to 1911. As this was happening, Samuel Slater's development of the cotton mill in the late 1790s propelled the citizens' quest for 'newer and better'. Investors/ developers from Rhode Island and Massachusetts saw industrial potential Observed the growth of factories in their neighboring states that harnessed waterpower for use as the given form of energy- Yankee ingenuity saw the potential to foster the rivers in and around Norwich. With the Yantic Falls as a starting point for this change, waterpower changed Norwich to a manufacturing giant of cotton and woolen textiles.



Greenville

The history of the Norwich Department of Public Utilities can not stand isolated, but it must be shown in the light of the development of the City of Norwich especially the Greenville section.

Greenville was established in 1828 on the west bank of the Shetucket River, approximately one mile above the confluence of the Thames, Yantic, and Shetucket Rivers because of the gentle terraces along the Shetucket. This section of Norwich was designed to be a village by the Norwich Water Power Company, who owned the land and water rights along the Shetucket River. As in many New England towns and cities, the land along the river was fairly narrow and reserved for industrial development of foresighted entrepreneurs. Few people resided in this area. In 1833, this land was surveyed for residential and commercial use. Lots were laid out along a grid of streets, running parallel to the Shetucket River (presently, North Main Street, Central Avenue, and Prospect Street). At one time, North Main Street was known as the Jewett City Road. This survey was used as a framework and not all of the streets of the original grid were developed.



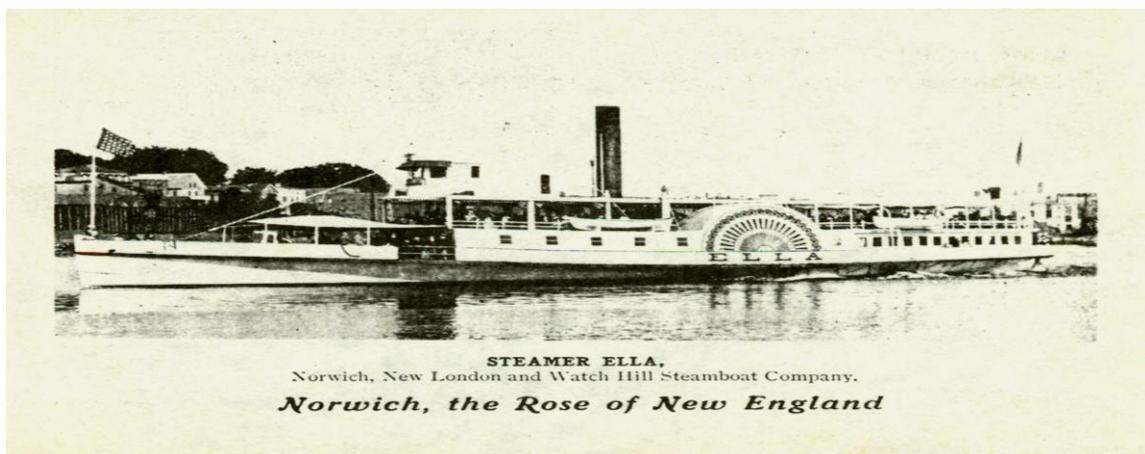
At this time, the river was still the major transportation artery, both in receiving raw materials and shipping finished products.

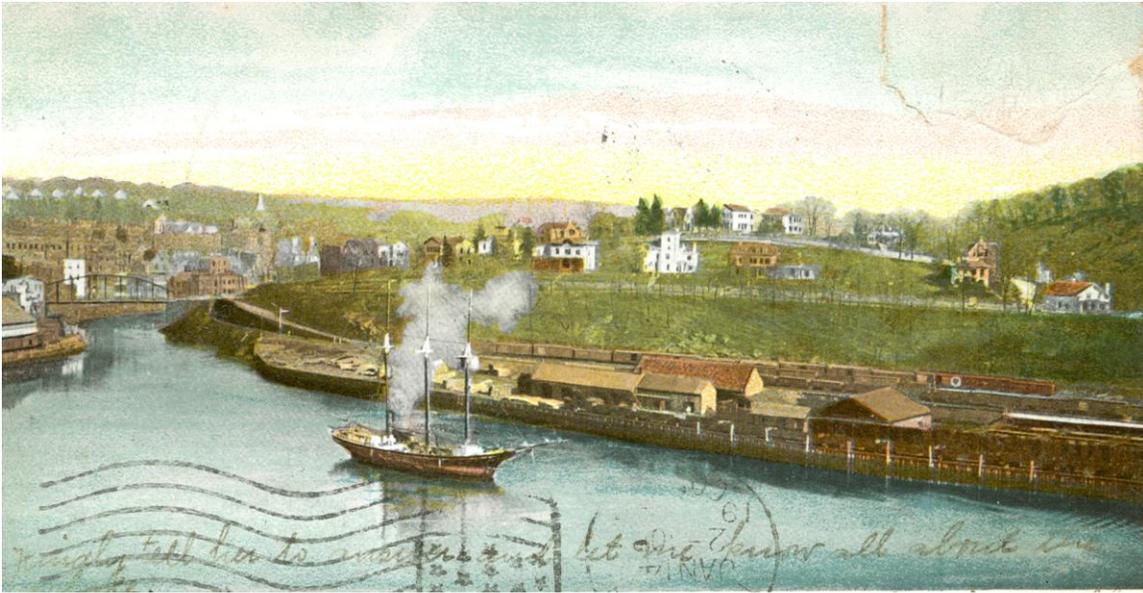
The prospect of unlimited waterpower, sufficient capital funding, and access to a labor force, set the stage for industrialization by William P. Greene, who gave his name to this village. William Greene graduated from Harvard in 1814 and came to Norwich at the invitation of William C. Gilman, who was already operating a nailery, or slitting mill, located at the Yantic Falls. Working with Gilman, Greene developed the Thames Manufacturing Company, a cotton mill, in 1824. The Yantic Falls area also included two textile mills, a paper mill, an iron factory, a foundry and rolling mill run by these industrialists. These successful ventures became the launching grounds for other industrial sites, which could come close to the power presented by the natural falls of the Yantic. Having traveled, Greene saw the potential of the Shetucket, which was similar to the manufacturing greatness of Lowell, Massachusetts. With this in mind, he envisioned waterpower from water canals to feed the needs of mills located along the Shetucket. With this vision, Greene acquired land rights on both sides of the Shetucket River above Norwich and thus became the principal founder of the Norwich Water Power Company. In 1828, the building of a dam on the north end of the village of Greeneville began. The company began to dig a power canal, almost one mile in length, south towards the confluence of the Thames. By 1832, two cotton mills, a paper mill, and several smaller industries were established, utilizing the waterpower and the labor force of the area. Greene and the Thames Manufacturing Company bought out a cotton mill, called the Quinebaug Company, located along the Shetucket waterpower canal. With the difficulties following the Depression of 1837, Greene reorganized and called his holdings the Shetucket Company. Norwich became a boom town and immigrants from Europe populated the mills and villages. Even with some of the roughest topography of any city in Connecticut, Norwich exploited the cuts made by the Yantic, Shetucket, and Thames Rivers.

The early manufacturing in the city consisted entirely of cotton and woolen textiles and paper. Of the many mills that populated Norwich, the great Ponemah in Taftville, the Falls Company, the American Woolen Company in Thamesville, and the United States Finishing Company of Greeneville set the standard for growth. As time went on, the mills eventually closed and the paper products moved away.



As a transportation center, where ships daily transported passengers and freight to and from New York City, Norwich prospered until the Thames was spanned by the New Haven Railroad in the 1879, ending Norwich's run as a major port. At this time it became quicker to send manufactured goods and raw material by rail rather than relying on the slower ships of the day.

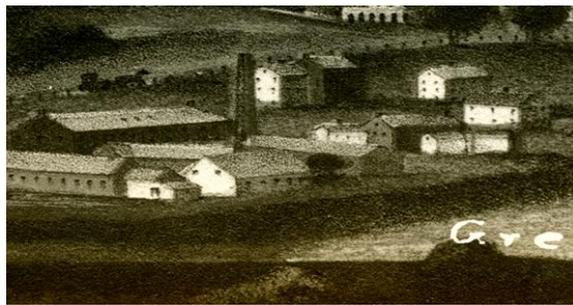




This postcard shows Laurel Hill and Dawley's lumberyard along the Thames River.

With the advent of gas produced by using coal as an inexpensive fuel, the gas utility was incorporated in 1854 as the Norwich Gas Light Company. The office was located at No. 8 Union Street. Its president was Gurdon Chapman and the Superintendent was Frederick W. Treadwell. The office of the Secretary and Treasure, Caleb B. Rogers, was located at 6 Central Wharf.

The Gas Works, as it was known, was located on Greeneville Road. It was much later when North Main Street and South Golden Street were given their names. A few years later People's City Gas Company was founded and later merged under the name of Norwich City Gas Company. Coal gas was provided to homes for illumination and later cooking purposes.



As we now understand, this process was very dangerous to the workers due to black lung disease and other respiratory problems.

The Norwich Gas Light Company's founders later incorporated the Norwich Electric Light Company. This was just a few short years since Thomas Edison illuminated the night and J. P. Morgan's home using electric power from the fabled Pearl Street Station in New York.

The Norwich Gas Light Company plant has always been located in its present site at a point about $\frac{3}{4}$ of a mile north on the Shetucket River from its junction with the Yantic River. The Norwich Electric Light Company began its operation in the rear of 17 Chestnut Street. This company initiated the building of a new plant adjacent to the Norwich Gas Light Company in 1889 and began operation in 1890 as electricity began to supercede gas, which had been the substitute for oil lamps. A few Norwich Bulletin news articles are as follows:

Norwich Bulletin February 15, 1890

New Electric Light Station

The new electric light station just being completed in Greeneville for the Norwich Electric Light Company is said to be as fine a station as there is in New England. Including the boiler room the building is nearly n78 by 80 feet, and is two stories high. The boiler room and engine room occupy the first floor. There will be three large boilers and two Greene engines, one of 400-horse power and one of eighty horse power. The driving wheel of the large engine is sixteen feet in diameter and weighs sixteen tons. Four large and two new small dynamos have been received, which with the four in the present plant will make ten dynamos for the new building. These are to be placed on the second floor, on which there will be rooms for the superintendent, a room for the men, a repair shop and a store room. The rooms are all high studded and airy, and the location, which is upon the west bank of the Shetucket River is pleasant and accessible. The building is expected to be ready for occupancy on March 1st.

The early gas plant was a coal/gas development and continued for many years as such until it changed to a water gas plant circa 1915. The electric plant started business with a single small horizontal return tubular boiler and two small steam engines connected by belt to 25 and 50-arc light generators. This equipment was moved to the new plant on North Main Street. Later, additional engines and generators were added to the original equipment.

The Norwich Bulletin recorded:

Norwich Bulletin January 23, 1896

The Electric Light Company Officers Elected for the Coming Year

At the annual meeting of the Norwich Electric Light Company, held at their office, Norwich, Conn., January 22, 1896, at 9 a. m., the following gentlemen were elected directors: Garret A. Hobart, Morris F. Tyler, George E. Terry, Edward N. Gibbs, and A. M. Young.

At a meeting of the board of directors, George F. Terry was elected president, Morris F. Tyler treasurer, A. M. Young secretary and assistant treasurer, and Samuel Hurlbut general manager.

The company fixed a new schedule of prices and discounts to go into effect on February 1. In the future all bills are to rendered monthly

Norwich Bulletin February 5, 1896 Legal Notice

Gas and Electricity

We will hereafter not connect service wires to new installations unless approved by the New England Board of Fire Underwriters, and we recommend Mr. Geo. W. Phillips, formerly electrician and superintendent of this company, to all persons desiring electric light wiring, as we know his ability to do reliable and safe work.

Norwich Electric Light Company
By Sam'l Hurlbut, Gen. Manager
Norwich, Conn., Jan. 28, 1896

Following this advertisement on the same day came one from Mr. George W. Phillips.

Electric and Gas Lighting

Having had over 16 years experience in Electrical Construction in all its branches, I am now prepared to install all kinds of Electrical Apparatus, including wiring for arc and incandescent lights and electric power; also for electric call bells, burglar alarms, gaslighting apparatus and enunciators. A full line of Gas and Electric Fixtures. Special attention given to the carte and repair of electrical work of all kinds.

In 1897, these two companies merged to form the Norwich Gas and Electric Company. The combined companies continued to supply gas and electric lighting to the people of Norwich and was contracted to supply gas and electricity to the public buildings of Norwich. The cost for these utilities was high for the day, but it was becoming the newest way to illuminate and cook.

In order for the City to acquire the Norwich Gas & Electric Company, rigorous legal steps had to be undertaken. The Legislative Act of 1893 allowed a municipality to own or establish a gas and electric plant. In order for this project to begin, the Common Council (City Council) had to approve this concept for two consecutive years with a two-thirds majority. When this event happened, the majority of the citizens of the City had to endorse the project. Unfortunately, the Court of Common Council passed this issue in 1898 but failed to considerate the issue in the following year. Mayor Charles Thayer moved forward anyway with the project and the City finally received all of the necessary approvals from the State of Connecticut. At this point the Norwich Gas & Electric agreed to sell all holdings to the City.

The following article by Mayor Thayer appeared in the *Norwich Bulletin* on September 4, 1900:

Street Lighting

In another subject which interests every city taxpayer, and therefore should be of interest to their servants in the court of common council, the cost of lighting the street of Norwich has nearly doubled in the past ten years, the treasurer's accounts showing the following expenditures for that purpose:

	Today's Value
June 1890 to June 1891.....	\$11,228.83
June 1891 to June 1892.....	12,009.69
June 1892 to June 1893.....	12,390.13
June 1893 to June 1894.....	12,902.46
June 1894 to June 1895.....	13,409.44
June 1895 to June 1896.....	13,585.63
June 1896 to June 1897.....	13,429.98
June 1897 to June 1898.....	17,591.75
June 1898 to June 1899.....	18,301.77
June 1899 to June 1900.....	18,902.83
	(\$256,043)
	(\$273,848)
	(\$282,523)
	(\$305,509)
	(\$330,056)
	(\$334,392)
	(\$304,561)
	(\$432,998)
	(\$450,474)
	(\$465,268)

This rate of increase needs to be continued, but another year to make necessary the levy of a two-mill tax on the present grand list (or one-fifth of the entire tax rate fixed by the last annual meeting) to meet the cost of public lighting. In the year ending June 1, 1900, the city paid the Norwich Gas and Electric

\$18,204.56. Out of this amount, \$1,580.96 was paid for lighting City Hall and other public buildings leaving \$16,628.53 for street lighting. The total cost of all public lighting is \$20,488.51. The city is therefore paying the Gas & Electric Company about five percent of a sum twice the value of its plant or is receiving from that company taxes on an assessment much below its true value... I am in favor of this municipality owning and operating a plant for the manufacture and sale of both gas and electricity. It seems to me that these are public utilities peculiarly adapted to municipal control, and which under proper regulations restricting the play of partisanship can be operated as to parallel the city water works by furnishing free street and other public lighting, similarity as the water board furnishes water for flushing, fire and other public uses without cost to the city.... I have not overlooked the fact that experiments in municipal ownership have proved unsatisfactory in Boston and elsewhere.... In South Norwalk in this state, and in another municipality outside the state with whom I have had correspondence, experiments with municipal ownership of lighting plants seem to have proved a success..."

As the question of the City of Norwich's decision to purchase the Norwich Gas and Electric Company evolved, both the City and the company began to muster means for the proposed by-out. In June 1902, the Norwich Gas and Electric Company's lawyer was interviewed by the Norwich Bulletin concerning the proposed purchase. He was very careful to note that the company was in the process of evaluating its position and he gave the legal reasons that would guide the purchase.

Norwich Bulletin June 24, 1902

Legal Aspects of the Gas Situation

Attorney F. T. Brown can see no way for City to escape taking plant- Must pay for its franchise-Massachusetts Decision on Similar Case

Frank T. Brown, counsel for the Norwich Gas and Electric Company, was seen by a Bulletin representative on Monday regarding the selling of the company's plant to the City. He was asked: "Do you feel at liberty to say anything about the gas and electric situation?" to which he replied, "I do, within certain limits."

He was then asked: “What is the situation from a legal standpoint?” Mr. Brown said in reply to this question: “The general assembly of 1893 passed an act empowering cities, towns, and boroughs to establish a gas or electric plant, or both. The act covers seven pages of the laws of 1893, and I can only give an outline of it without taking too much of your space. The main features, as far as the city of Norwich is concerned, are as follows: Before a city can establish such a plant, a vote to that effect must be passed by two-thirds of the Court of Common Council in two consecutive years, and have the approval of the mayor. It must then be ratified by a majority of the voters of the city at a municipal election. The funds to establish such a plant may be raised upon bonds issued by the city, authorized by the Court of Common Council.”

Mr. Brown went on to say....”The Connecticut law is taken from the law of Massachusetts enacted in 1891. In many respects it is copied from the Massachusetts law verbatim, in some portions in substance and in others it differs quite materially. ...The Massachusetts act of 1891 has been before the supreme judicial court of the state for construction. In one case the court determined what kind of a schedule should be filed by the company, and as our law in that respect, is identical with the Massachusetts law undoubtedly our courts will follow the Massachusetts decision.”

“As far as I know,” said Mr. Brown, “simply this: The city of Norwich has decided to establish a gas and electric plant. The Norwich Gas and Electric Company owns such a plant. The law gives it the right to sell its plant to the city at its fair market value. The money is just as good to the company as the plant. Competition between the company and the city, where there is only room for one, doesn’t seem to be desirable. So the company elects to sell its plant to the city at the price at which it offered in case of disagreement at an appraisal.”

As time went on, both sides were in disagreement on the final cost of the purchase company due to cost of bonds, responsibilities for payment due to these outstanding bonds, etc. The Bulletin articles allow us to see the maneuvering of both City and company.

Norwich Bulletin September 24, 1902

Gas Commission Named

Judge Gager Appoints H. C. White and C. S. Mersick of New Haven and J. M. Holcombe of Hartford to Appraise Local Plant- No Date for Hearing Set.

Judge E. B. Gager of the Superior Court on Tuesday announced the appointment of Henry C. White and Hon. Charles S. Mersick of New Haven and Hon. John M. Holcombe of Hartford as a commission to appraise the property of the Norwich Gas and Electric Company and to arrange for its

sale to the City of Norwich. It was understood that the commissioners would consist citizens residing outside of either New London or Windham counties. No date has yet been arranged for a hearing.

The full text of the decision, copies of which were received on Tuesday by Corporation Counsel J. T. Fanning for the city and by F. T. Brown for the company, is as follows:

The Norwich Gas and Electric Co.

Vs.

The City of Norwich

ORDER APPOINTING A COMMISSION:

The petition of the Norwich Gas and Electric Company against the City of Norwich, dated July 22, 1902, came before the undersigned authority at the City of Norwich on the first day of August, 1902, at 2 o'clock in the afternoon, and, by continuance, to August 2, 1902, when the parties thereto appeared by their witness and counsel, and were fully heard thereon. The petition was duly served upon the defendant, pursuant to the order of notice, as appears by the officer's return thereon. The respondent, the City of Norwich, filed its motion to dismiss the petition and application, as appears by said motion on file, which motion was overruled; thereupon the respondent filed its answer; as appears by said answer on file, and the parties were duly heard upon the petition and answer, and it was found that said answer was untrue, and that the petitioner was entitled to the appointment of a commission as prayed for in its petition.

Whereupon, it is ordered and decreed that Henry C. White, Esq., of New Haven, Hon. Charles S. Mersick of New Haven, and Hon. John M. Holcombe of Hartford be and they are hereby appointed a special commission under the provisions of an act of the General Assembly entitled: "An act authorizing cities and other municipalities to establish plants for the manufacture of gas and electricity," passed at its January session, 1893, and approved June 23, 1893, and now appearing as Chapter CXXII of the general statutes: and that an adjudication be made by said commission whether the property contained in the schedule set forth in said petition, real and personal, including rights and easements, properly belongs to the plants described in said petition, and should be sold by said Norwich Gas and Electric Company and purchased by said City of Norwich, and what the time, price and other conditions of sale and delivery thereof shall be, and that said commission report its doings to the Superior Court for New London County, in which said plant is located, for confirmation by said court. Agreement of counsel said commission is appointed as of August 2, 1902.

EDWIN B. GAGER

Judge of the Superior Court.

Dated September 22, 1902

Both the City and the Company were not insulated from rumors concerning the purchase of the property and franchise. Much was stated in the local paper to add to the problems both parties had to overcome. As time was of the essence in the purchase- that being two consecutive years of the Court of Common Council voting for the purchase as outlined in the General Statute of the State of Connecticut of 1893 allowing municipalities to operate and purchase utilities, much had to be accomplished on both sides- mostly the fair market value of the enterprise which the Company included franchise payment and good will.

Norwich Bulletin December 24, 1902

Movement to Nullify Purchase of Gas Plant

**Mayor Thayer Strenuously Opposed to Such Action,
While Company is said to Favor the Project.**

For the past few days rumors have been afloat regarding a movement to nullify the purchase of the plant of the Gas and Electric Company of this city, but it has not taken definite shape as yet. It is claimed that public sentiment in regard to the municipal ownership of the plant has changed since the matter was voted upon and that if it was put to a vote now it would be defeated. The hearing before the commissioners appointed to decide upon the price to be paid by the city is set for Monday, Jan. 5, and what even is done in the way of heading off the deal will have to be done before that time.

The rumor also contained a conflict that Mayor Thayer was in favor of such action but when asked in regard to it he stated most emphatically that he was opposed to it. He stated that he considered that the recent vote of the people was sufficient evidence that the people wanted the city to own its own plant, and he did not see how the matter could be settled now. He also stated that there had been talk of calling a city meeting to ask for another vote on the question, but he did not think it would amount to much. He further said that the city was ready for the hearing and expected that it would be an interesting session.

It is understood that the gas company would be pleased to have the negotiations called off. Whatever action is taken must and probably will be taken within the next few days.

The culprits involved in the rumor mill were never identified by the paper, City, or Company. Actions and events dragged on producing unkind feelings for both sides.

Two legal areas of concern for both the City and the Norwich Gas and Electric Company concerned the franchisement of the company and the good will which the Company expected to be paid for. Wikipedia defines the term franchise as a permission by a person or entity permitting the distribution of goods or services under his trademark, service or trade name by an agreement to another person or entity. During this period, the grantor controls over the franchise. As the suit is presented, both areas of franchise and good will were negated in the Superior Court decision as follows:

Norwich Bulletin April 2, 1904

ARGUMENTS COMPLETED IN LIGHTING HEARING

Ex-Mayor Matthews Concludes His Plea for City and Judge Stoddard Closes for Company- Commission will Announce Award to Council in Order to Arrange for Disposal of Bonds.

The famous municipal lighting hearing, the first of its kind to take place in this state, was practically concluded on Wednesday, after sessions of sixteen days which covered a period of some three months. The case is now in the hands of the commission for their award, but there will be one or two more days of hearings before the final report is filed with Judge Gager of the Superior court. Should the commission decide that the City of Norwich must assume the bonds of the company, some arrangement will be necessary with the bondholders; and to determine this before the filing of the final report, the award, with the reason, will be given to counsel so that a hearing on this question may be held. Ex-Mayor Matthews closed his argument on Wednesday morning and was followed by Judge Henry Stoddard, who closed for the company. He asserted with considerable spirit that the charges made by the last speaker against the gentlemen who composed the incorporators of the present company were brutal and entirely unwarranted. He discussed the legal aspects of the case in a clear and impressive manner.

At the opening of the morning session ex-Mayor Matthews continued his argument, begun the previous evening. He said, in stating the city's

position in this matter, he would claim that the idea was to have the property transferred for in full. The commission could then take the purchase money and place it in the hands of trustees for the benefit of the bondholders and creditors. The supplies on hand when the transfer is made, consisting of gas stoves, carbons, wire, etc., would have to be valued by Manager Campbell at \$17,000, and Dr. Amory estimated them at about 10 per cent less.

The witnesses for the company based their estimates of value on the plant very largely on the supposed worth of the franchise. The company's attorneys, however, do not wish to have the commission place a separate value on an appeal. The city's figures represent the actual worth of the plants, and if anything is added it must be for franchises. The commission should accordingly; state in detail now it reaches its decision, which will put the matter in a plain light.

Mr. Matthews again asserted that the promoters of this company paid in nothing in the way of capital, and thus violated the law. The bondholders are not at present known to the city, but the city is willing to pay any honest holders of these securities. Such acts as this named are the cause of the present hostility towards the company.... Judge Henry Stoddard, counsel for the company said that "the attack on the reputable gentlemen who formed the Norwich Gas and Electric Company was both brutal and gross in its nature... The City of Norwich did not take advantage of the law of 1893 at the time the charter was granted the company but chose to wait until 1903. It was claimed by Judge Stoddard that Mr. George Terry and his associates were actually out of pocket by the merging of the two companies. As only one dividend has been paid them they should be allowed ten per cent of the money invested to make them whole. Judge Stoddard said his clients did not want sympathy, but they did wish to be protected from robbery.

In the law of 1893 the legislature chose to include good will, franchises and earning capacity as elements of value, although these do not appear in the Massachusetts law....The city should be treated in this case as a private corporation, as the furnishing of light is a very different matter from the function of government. These proceedings are an attempt to seize the property of a corporation and the issue is between two corporations acting under law of 1893. The city did not wish the plant until it was found to be valuable and it would not now want the plant unless it had value.

The court did utilize a fairly new part of the eminent domain related to the 14th Amendment relationship to the 5th Amendment of the United States Constitution, which states "... nor shall private property be taken for public use, without just compensation." At this time of industrialization, the era of big business, was not only for the Federal Government, but the states themselves. Therefore, the Due Process Clause of the Fourteenth Amendment became binding in the states and became known as the "selective incorporation" document. (Wikipedia)

Norwich Bulletin April 15, 1904

Decision in Gas and Electric Suit

Practically a Complete Victory for the Company – Only One Error Found by Supreme Court of Errors

A special dispatch to the Bulletin Thursday afternoon stated that the Supreme Court had rendered a decision in the gas and electric litigation as follows:

The only error found by the Supreme Court in the judgment in the Gas and Electric Light Company vs. the City of Norwich was in the provision requiring the City to reimburse the Gas and Electric Company from the City treasury for principal and interest, it, the Gas and Electric Company, might therefore pay on its mortgage bonds. For such repayment the Gas and Electric Company is limited to its equitable charge upon the mortgaged property.

F. T. Brown, attorney for the Gas and Electric Company, in an interview Thursday evening, said in regard to the decision>

“The Supreme Court in every substantial respect sustains the contention of the Gas and Electric Company. The claim of the City that the law was unconstitutional is overruled. The award of the commission requiring the City to pay the company \$590,000, plus whatever the supplies of the company may be appraised at, is sustained in every particular.

The judgment of the Supreme Court carrying out and making the award effectual is sustained in all respects except one. There are \$400,000 of the bonds of the company, secured by the mortgage, outstanding. In case the company should pay the bonds or any of them, the judgment of the Superior Court gave the company two remedies against the City: One a foreclosure of the mortgage and the other a suit at law, by which the amount could be collected out of any property of the city or its citizens. The effect of the Supreme Court decision is confined to one remedy and that by a foreclosure of the mortgage: That is, if the company pays the bonds, or any of them, it must recover the amount out of the property conveyed to the City.

To put the matter in a single sentence, the effect of the Supreme Court decision is this: The City must pay the company \$590,000, plus whatever the company’s supplies may be appraised at, or pay the company \$190,000 and abandon the property.”

Norwich Bulletin—April 19, 1904

.... The contention of the City – that it could not be required under the law to purchase the franchise and good will of the Norwich Gas and Electric Company, and that it could not be required to assume the mortgage indebtedness for \$400,000 – has been fully sustained by the courts. The cost of the investment in the plant to be made by the City, therefore, is the

difference between the price fixed by the commission and \$400,000, a savings to the City resulting from the litigation of about \$200,000.

Norwich Bulletin April 19, 1904

**Commission to Take Lighting Plant
Judge J. M. Thayer, W. F. Bogue and John McWilliams Named by Common
Council-Will Serve without Pay from May First**

The special committee – C. F. Thayer, N. B. Lewis, and Duncan Gilmour – appointed by the Common Council on the matter of purchasing the gas and electric plant reported progress Monday evening. The correspondence between the committee and company, in which an endeavor to effect a compromise was made, was read, giving the history of the case before and after it was taken into court.

The contention of the city – that it could not be required under the law to purchase the franchise and good will of the Norwich Gas and Electric Company, and that it could not be required to assume the mortgage indebtedness of the company, represented by bonds for \$400,000 – has been fully sustained by the courts. The cost of the investment in the plant to be made by the city, therefore, is the difference between the price fixed by the commission and \$400,000, a saving to the city resulting from the litigation of about \$200,000.

At the next sitting of the Superior Court the judgment, if modified as accordance with the ruling of the Supreme Court of Errors, will make it necessary for the city to take over the lighting plant within ninety days after the date of such modification.

Your committee, therefore, deem it advisable to make immediate preparations to that end.

The municipal lighting act provided in such case that a commission shall be appointed, to consist of three citizens of the city not holding other official positions in such city, who shall be appointed by the Court of Common Council, to whom shall be entrusted, subject to any ordinances or by-laws established by the Court of Common Council, the operation, control, management, repair of the plant, and the manufacture, generation and distribution of gas and electricity, including the purchase of supplies, and the hiring and discharge of employees, and of a suitable clerk and superintendent, and all the business relating to such manufacture, generation, and distributing, and to the methods, amounts, times, prices, and quality of supply to each person and corporation, and the collection of bills, the keeping of accounts, and the custody of money received for gas or electricity, or otherwise, and the payment of bills incurred in said business, as well as the rendering of statements of their doings, business receipts, disbursements, balances, and of the indebtedness of the city in their

department, and prescribing the form of the books and accounts containing the business of the plant. It is apparent, therefore, that before final payment is made and the plant actually taken over the commission will have much work to do, and your committee recommends the immediate appointment of the commissioners, in order that they may organize as a board and enter upon their preliminary work without delay.

That the operation of the gas and electric plant under municipal ownership may at the start be free from partisan and corrupt management, so much feared by some, your committee deem it important that the board be composed of citizens entitled to the confidence of the community, not hostile to the principle of municipal ownership, and willing to serve the City without compensation.

Under the language of the resolution authorizing their appointment, your committee deems it within their province to make the following nominations, and do nominate the following named citizens of the city to be the first Board of Gas and Electric Commissioners.

John M. Thayer for the term of three years, from May 1st, 1904
William F. Bogue for the term of two years, from May 1st, 1904
John McWilliams for the term on one year, from May 1st, 1904

Knowing the difficulty experienced in obtaining their consent to accept positions on the Board of Gas and Electric Commissioners and the reasons which have finally overcome their objections, your committee feel warranted in expressing the belief that any failure in the management of the lighting plant, if placed in charge of nominees, will be due to causes other than their lack of unselfish service to the public. We have been urged by one of the nominees especially not to make the nomination, but he has yielded to the committee's solicitations solely through the desire to render the municipality a service.

Your committee feel that the appointment of their nominees and the acquisition of the lighting plant at the close of an unusually busy year will be the most important of many acts of the present administration looking to the advancement of the city, and the most important of any since the establishment of the water works.

Finally, the City and the Comapny knew the decision

Norwich Bulletin May 5, 1904

Gas and Electric Plant Awaits Transfer

Judgment Signed by Judge Wheeler Provides for Company's Sale

Judge Ralph Wheeler of the Superior Court, sitting in chambers, held his final hearing upon the matter of the Norwich Gas and Electric Light Company matter on Saturday morning, when he signed the judgment offered

in accordance with the mandate of the Supreme Court of Errors and modified from its previous form as suggested by the higher court.

About half and hour was spent by Judge Henry Stoddard and Attorney Frank T. Brown for the Norwich Gas and Electric Company, and Attorneys Gardiner Greene and Joseph T. Fanning for the City in consultation before the judgment was prepared for signature. The Judgment provides that the City shall purchase at a valuation to be fixed July 1, 1904, the stores, tools, materials, stock and such other like property as the City may at that time possess; that the valuation of the plant and property shall be \$590,000, plus the sum determined as the value of the stock, tools, etc., subject to a mortgage of \$400,000.

Mayor Thayer gave his address to the Court of Common Council on May 28, 1904 following the close of the Council's session covering the events of the past year.

Norwich Bulletin May 28, 1904

Mayor Thayer Makes Address

Three things which have required special consideration by council were water supply, lighting plant and consolidation of city and town.

Council:

My second term as mayor is practically at the end; the few remaining days furnishing the opportunity merely to prepare the way for a new administration....

The Water Supply, for years the source of conflicting opinions, expert and otherwise, was promptly taken in hand by the Board of Water Commissioners when organized under the democratic administration. The Council of 1902 at its July meeting acting upon an executive recommendation to the effect, rescinded votes passed by the proceeding council looking to the expenditure of at least \$300,000 on a water reservoir at Stoney Brook in Montville, and this left the Water Board free to adopt a plan and policy in accord with the popular will. Those citizens who laid aside partisanship in order that such a policy might be adopted and carried out will find in the completed works at Fairview ample justification for their course. The water board, unchanged in membership during this term, has, by the expenditure of about one-quarter of the sum proposed to be spent at Stoney Brook so increased the storage capacity of Fairview Reservoir that there seems to be no present occasion to fear a water famine; and except in years of abnormal drought the present system will be adequate for the city's needs for a generation....The water question may therefore be regarded as settled.

The Municipal Lighting, the second subject referred to, is also practically settled. As with the water question, much effort has been wasted in an attempt to defeat the expressed will of the citizens to furnish their own light, and there is still a persistent effort being made through misrepresentation of facts to induce them to believe that the municipality has nothing except ruin to look forward to as a consequence of their action on this subject. Municipal ownership of the water works having, contrary to

expectation, proved successful, and it being evident the taking over of the lighting plant by the city it would seem as if all citizens should not with one accord lend their aid to make the plant a success. As in the case of the water works, it still remains to finance the lighting department. This must be done prior to July the first, on which date the city will become the possessor of the lighting plant, and its operation pass to the board of gas and electrical commissioners. Steps have already been taken to enable the city to make the necessary payment by a temporary loan.

With little time remaining before the purchase of the gas and electric plant, a Norwich Bulletin's editorial became a distraction with its view of the purchase.

Norwich Bulletin June 4, 1904 Editorial

The Wrong of Municipal Speculative Lighting

The Bulletin once upon a time did advocate the lighting of the streets and public buildings of Norwich by the city. It believed in such lighting then – it does not disbelieve in it now. If in such lighting there was found to be a deficit all the property would pay for it and all would be enjoying equal benefits.

It has opposed municipal speculative lighting because it is liable to do an injustice to the poorest property holder if a deficit is made. If through mismanagement or any other cause the business fails to pay, the man who regards himself as too poor to burn gas at home must have his house taxed to meet the deficit created in lighting the homes of others.

How would the little house owners, who cannot afford gas for themselves, like to help pay for the gas burned by those better able to pay?

The accompanying illustration by a Norwich Bulletin cartoonist displays the caricature of Mayor Thayer in an unkindly view.

Located on the front page of the Norwich Bulletin for June 4, 1904, was this illustration of Mayor Charles Thayer.



The Norwich Bulletin kept their customers informed on the flow of the sale of the Norwich Gas and Electric to the City of Norwich. The information presented allowed the citizens to observe a smooth transition from a privately owned company to municipal ownership by the City of Norwich.

Norwich Bulletin June 15, 1904

Municipal Light Plant's Superintendent Comes Today
Francis S. Thayer will acquaint himself with workings of the local concern and take charge July first.

Francis S. Thayer of Westerly, R. I., the superintendent who has been appointed for the municipal gas and electric light plant, is expected to arrive here today to begin the task of acquainting himself with the workings of the plant in all its details, so that when the city takes control the first of July he will assume the superintendency. It is not expected that he will move his family here until about the first of July. The superintendent is probably the only change, which the commissioners will make in regard to the employees at the plant, according to the statement of one of the commissioners.

Mr. F. S. Thayer is thoroughly acquainted with the gas and electric business having been for fourteen years with the Providence, R. I., Gas and Electric Company. When that company consolidated a year and a half ago he was thrown out of employment and since then has been at Westerly, R. I. with the company of that city. Mr. Thayer is 45 years old and comes with the best of references.

Letters to the Editor from un-named citizens tell of Mayor Thayer's poor economic use of money in his vision of Norwich in both the buying of the Norwich Gas and Electric Company and his push for Pease Brook as a future reservoir that would add to Norwich's water supply. Mayor Thayer, when confronted with the concept of not having his name on a brass plate for this future water source, talked of the "jackassness" of the Republican majority of the Court of Common Council. It must be noted that Mayor Thayer was running for a new term as mayor in Norwich. As a manufacturing city, the Republicans held the upper hand in industry, yet, calling for the common good of the citizens as a strength, Mayor Thayer was elected by a majority of the voting citizens with its Republican majority Court of Common Council.

\$235,000 ISSUE OF BONDS

**Authorized by Common Council for Gas and Electric Plant –
More “Caucuses Held, but the end is not yet.**

.... The following resolution was read and passed:

Whereas, it has been determined that the City of Norwich shall purchase, under the provisions of chapter 122 of the General Statutes of the state, the gas plant and the electric plant heretofore belonging to the Norwich Gas and Electric Company, and the property comprising said plants is to be transferred to said city on July first, 1904;

Resolved, That an issue of bonds to the amount in the aggregate of not more than Two hundred and thirty-five thousand dollars is hereby authorized and approved, the money realizing upon such bonds to be used for the purchase of said property; and the mayor and treasurer of said city of Norwich are hereby authorized and empowered to execute and deliver said bonds for and on behalf of said city; and

Resolved, That the following form for said bonds is hereby approved, to wit:

**The United States of America,
State of Connecticut,
The City of Norwich,
Municipal Gas and Electric Plant Bond.**

For value received the City of Norwich promises to pay to the Norwich Saving Society or to the bearer hereto the sum of _____ Dollars in lawful money of the United States at the office of the Norwich Savings Society in Norwich, Connecticut, on the fifteenth day of June, A. D., 1929 (or on call as hereinafter provided) with interest thereon from the fifteenth day of June, A. D., 1904 at the rate of four and twenty-five-hundredths per cent, per annum, payable semi-annually in like lawful money on the fifteenth of December and the fifteenth day of June in each year at the office of said Norwich Savings Society.

This bond is one of an issue of two bonds to the aggregates amount of _____ issued under the provisions of section 1,981 of chapter 122 of the General Statutes of Connecticut to provide for the payment of a municipal gas and electric plant established and purchased within the limits of the City of Norwich under the provisions of said chapter 122.

The City of Norwich reserves the right, at any time hereafter, without notice, to pay this bond or any part hereof with the interest accrued to the time of such payment as aforesaid to be endorsed hereon, and this bond shall also become due and payable (anything hereinbefore contained to the contrary notwithstanding) at the expiration of one year’s notice in writing from the holder hereof to said the City of Norwich of the intention of said holder to require payment hereof....

In witness by vote of the Court of Common Council caused this instrument to be executed and its corporation seal affixed by its mayor and treasurer, this day of June, A. D. 1904.

The old Norwich Gas and Electric Company held a banquet for the workers of the company on its last day as a private gas and electric company.

**Banquet Given to Gas and Electric Employees
Norwich Bulletin July 1, 1904**

“A farewell banquet was given to the twenty-five employees of the Norwich Gas and Electric by General Manage A. J. Campbell, who had been the General Manager for several years. The banquet was served in the second story of the electric light plant and the guests were summoned by the whistle of the company. The new superintendent of the plant under the city’s control, F. S. Thayer, and M. L. Merry of New York were guests of Mr. Campbell. An excellent menu was served by Davenport.”

An explanation of the value of the money spent for the Norwich Gas and Electric Company in today’s money value for the various amounts presented is as follows:

1904	2009
\$690,000	\$15,732,393
\$200,000	\$ 4,560,114
\$400,000	\$ 9,120,228
\$590,000	\$13,452,336
\$190,000	\$ 4,332,108
\$235,000	\$ 5,358,134

Discussions of municipal ownership of the Gas & Electric were held in all areas of the City. A whimsical article was written in the Norwich Bulletin on July 1, 1904, which illustrated the new frontier that the city was moving towards:

The City's Light

July 1, 1904 Norwich Bulletin

The evening was dark and gloomy, and there were ominous portents of a spell of weather. Outdoor conditions offered no temptation to wander abroad; so I withdrew to my room and lighted a lamp filed with the means of Rockefeller's show of benevolence, took a book from the upper shelf of my little library, containing a story of the dark ages, which well befitted the spirit of the occasion. I was soon immersed in the adventure of robber bandits, abducted princesses, and chivalrous knights, and had become anxious for the fate of the beautiful daughter of a haughty baron who had been stolen from her father's strong castle, when a slight noise near me roused my senses to the consciousness of the presence of a friend who often penetrates to my den unannounced.

"Look here," said my friend, as he saw that I had recognized him; "Why are you burning kerosene, when you know it is costing you fifteen cents a gallon?"

"I burn it," I replied, "because I want a light."

"Want a light! Well, that's a good one! Why, don't you know that you have only to raise your curtains to get all the light you want?"

"What's the matter?" I asked in surprise. "Is the city on fire?"

"City on fire! Oh no. Didn't you know that the city is now producing its own light, and has all it wants without asking anybody for it? Look out and see the effect."

I looked out. I was astonished to see everything bathed in a most effulgent glow. Every object within range of vision was as distinctly seen as if the sun had been upon the meridian. The acropolis of our city, familiarly known as Jail Hill, seemed crowned with an aureole like that upon the head of one of the ancient saints. The hemlocks upon the West Side slopes were waving friendly greetings to their brethren of Laurel Hill. The wavelets upon the river and the ripples upon the cove danced with sportive glee as they caught the glittering rays.

"Here," said my friend, "is a complete vindication of the prescience and enterprise of our city government in taking the work of lighting the city into its own hands. The people clamored for more light, and here they have it in superabundance. The sun will continue, as of old, to rule the day – we can't expect to improve upon that – but through the night-watches the output of the city's light-factory will reign supreme. The moon will continue to govern the tides and keep up the procession of the equinoxes; but within our corporate limits its shine will all be wasted. The aurora borealis may illuminate the ice-caverns of the paleocretaceous sea; but above the turrets and spires of our city it will consecrate in vain. Comets may come and go; but they will have no other interest for us than as astronomical phenomena."

My friend waxed enthusiastic as he went on: "The burning of Rome, the incineration of the Alexandrian library, the conflagration of Moscow were all blazes of historic renown; but here is a light that reduces them by comparison to mere fire-fly proportions. Those projected their lurid splendors upon an atmosphere laden with the wails and tortures of anguished multitudes of people; but here we have an illumination for which

grateful hearts will evoke the choicest of heaven's blessings that from Aladdin's wonderful lamp; it equals the holy light that Milton hailed; it is fully as effective as that which guided Israel's hosts across the Arabian sands; it is a light that never was on sea or land; it is a light---“

Oh! Horrors! I have been asleep. It is all a dream!

In the July 31st, 1905 Report of the Board of Gas & Electrical Commissioners of the City of Norwich, a full disclosure of the costs of doing business and needs of the departments were put forth. The total profit even after paying for lighting of public buildings, street lights, and gas used in the public buildings, for the first year of operation was \$19,554.80. The report also indicated a loss in the sub-letting of the old offices when the City took over the plant amounting to \$641.20. All income and expenses were described in great detail including the purchase of a new horse and cart needed to haul materials such as the new cast iron gas pipes that had to be replaced due to severe leakage. An interesting fact concerning the electrical department shows that there were 396 light meters, 36 power meters to supply power to 12 sign lights, 18 other lights. As time went on that year, more active meters were added and consequently there was an increase of 150 customers. The only salaried employees at this time were Archa W. Coit, Clerk whose salary was \$900.00 a year, and Francis S. Thayer, Superintendent, salaried at \$1,820.00. The Board of Gas & Electrical Commissioners on this document were John M. Thayer, William F. Bogue, and John McWilliams.

A pricing list accompanied this document that showed the price of gas for July 1, 1904, at \$1.35 per thousand cubic feet consumed, payable monthly, carrying fifty cents per month minimum charge and an additional charge of fifteen cents per thousand cubic feet added to the bill if not paid on or before the 10th of each month. The 1905 charge dropped to \$1.25 per thousand cubic feet to consumers of less than 500,000 feet. The minimum charge dropped to \$0.25 per month, while the rate remained the same for late payment.

The charges for lighting electricity scaled from 14 cents per kWh ranging between 1 to 50 thousand watt-hours to a low of \$ 0.065 per kWh using 1,500 or more kwh. The charges for power usage for machinery ranged from 9 cents per kilowatt to 3 and one-half cents per kilowatt, scaled on the amount used.

The rationale for the buying of the Norwich Gas & Electric Company revolved about the cost incurred by the City in the lighting of the streets and public buildings. Gas used by the City for the 13 months reported in this report indicates that the City consumed \$478.61 worth of gas and \$19,617.40 of electricity to light public building and of this amount, \$18,544.27, for street lighting. These amounts would have been charged to the City by the Norwich Gas and Electric Company and would have cost the citizens at least two mils (one-fifth) of the taxes for that year. Even paying this expense with income from the City's gas and electric customers, the new Gas & Electric Department provided a profit that went to offset the tax burden on its citizens and businesses.

The following year the net profit proved to be \$19,930.77. The cost of public lighting of building and streets during the fiscal year ending July 31, 1906, was \$20,298.61. Francis S. Thayer resigned as superintendent and was replaced by William F. Bogue. His salary was \$1,820 and Archa W. Coit's salary increased to \$1,000.

It became evident to the Norwich Gas and Electric Department's Commissioners during the first years of operation that the success of the Department would depend upon its financial stability. In their concluding remarks in the first annual report the Commissioners stated:" all profits arising from the purchase of the plant should not be left in the hands of the Treasurer to be seized upon by other departments; and all moneys charged and hereafter to be charged and collected for depreciation of the plant should be set apart and used for the maintenance of the replacements which will hereafter become necessary in the plant

The Norwich Board of Trade which later joined with the Norwich Business Men's Association in 1910 forming the Norwich Chamber of Commerce, designed many brochures, pointing out the practical advantages of locating in Norwich
The 1905 brochure stated:

We consider the property on both sides of the Thames River between Norwich and New London superior to any other property within the zone desired and for that matter within the United States for the following reasons: First, you have more than n38 million people within a 12 hours ride. Second, you have 444 cities of 10,000 people and over within the 12 hour radius. Third, you have parts of 16 states within 12 hours by rail, and all of eastern Canada and direct trunk line connections therewith. You have all of the cheapest hydroelectric power in all New England which with your gas works and water plants are owned and operated by municipalities. You have

low cost of living, abundant labor, little if any labor troubles, favorable freight rates, both rail and water, splendid climate and are surrounded by lands which if properly cultivated are rich in production. These are the advantages of manufacturing in Norwich.

In the following article from The Norwich Board of Trade, Norwich's industries were touted for possible future manufacturers as an example of what is found in Norwich.

Norwich, Conn. February 1, 1906

The Norwich Board of Trade Quarterly was published in April, July and October, 1904, and January, 1905. It contained the list of officers, the constitution, the report of the committee on statistics, and accounts of the most important work of the board during the year and of the banquet of 1905.

The object of this book is to perform the same service for the year just ended. A catalogue of the exhibitors at the Norwich Industrial Exposition in 1906 is also included, practically every manufacturer within the town of Norwich appearing on the list.

It is but fair to the press of Norwich and the reports to say that to them a large share of the popularity of the Board of Trade is due. Public opinion regarding any matter is so largely moulded by the newspaper accounts and an uncomplimentary tone may, in the inception of any project, be sufficient to cause its success or failure.

The Gas and Electric:

The price of gas when the city took the Norwich Gas and Electric plant was for illuminating gas \$1.75, and for fuel \$1.40 with discounts from 5 to 12 and one-half per cent. These prices were reduced to a flat rate of \$1.35 for both and after the price had been in effect ten months a further reduction was made and the present price of \$1.25 was established.

There were in active use July 1, 1904, 1,542 gas meters, and on January 1st, 1906, 1,787, a net gain of 245 gas customers. This department has installed during the new management about 225 gas ranges which has substantially increased the output of gas. From July 1st, 1904, to December 31st, 1904, 17,420,100 cubic feet of gas were sold, and from July 1st, 1905, to December 31st, 1905, there were 20,371,500 cubic feet.

The price of electricity under the old corporation management was \$0.17 1/2 per kilowatt hour (\$3.99 per/kwh in 2008), with discounts ranging from 5 to 20%. The commission adopted a flat rate scale which was a little less than the former price with all discounts off. This was also in effect for ten

months, when the present scale was established, which is very much less. There has been a net gain of 212 electric consumers since the city acquired the plant.

During the past year there has been expended and contracts made for the amount of \$53,000 for betterments and additions. These consist of a new smoke stack; new steam engine; new generator, new water gas house; new water gas machinery; new condensing and scrubbing machinery; new oil tank; piping and connections to all the new machinery; new lighting system for Preston; new six-inch gas main on Roath and Broad Streets; also many small mains on other streets, new electric meters and transformers and a new horse and wagon.

Page 43 Norwich Industrial Exposition

The Norwich Industrial Exposition is the outgrowth of the small display of manufactured goods made by the new industries of Norwich, at the November meeting of the Norwich Board of Trade.... The committee was subsequently enlarged and subdivided as follows:

Exhibitors

American Wood-Working Machine Co.
Atlas Radiator Pedestal Co.
Barber M. A. Machine Company
Bard Union Co.
Barstow, J. P. & Co.
Beckwith Printing Co.
Berry, Elmore H. Confectionery
Bon Nectar Co.
Chelsea File Works, Inc.
Clinton Mills Co.
Connecticut Pop Corn Co.
Cowan, William R. Blank Books
Crescent Fire Arms Co.
Cyros & Gudis, Confectioners
Davenport, W. H. Fire Arms Co.
Falls Co.
Fanning Studios, Art Novelties
Gates, William H. Automatic Phonograph Attachments
Gilbert, N. S. & Sons Cabinet Furniture and Upholsters
Glen Woolen Mills
Goodwin Cork Corp.
Green, Michael J. Broad Silk Goods
Hall Brothers Woolens
Hannis, B. C. Cigars
Hopkins & Allen Arms Co.
Kellogg – McCrum – Howell Co. Steam and Hot Water Boilers
Kuebler, Charles A. Monuments and Building Stone

Lee and Osgood Co. Manufacturing Chemists
McNickle, E. H. Picture Frames
Mallett, James W. Awnings and Signs
Martin, J. B. Co. Silk and Velvets
Norwich Belt Manufacturing Co.
Norwich Cutlery Co. branch of International Silver Co.
Norwich Gas and Electric Department
Norwich Nickel and Brass Co.
Norwich Paper Box Co.
Norwich Quilt Manufacturing Co.
Norwich Silk Co.
Osgood, Charles & Co. Manufacturing Chemists
Ossawan Mills Co. Picture and Shade Cords
Page, William H. Boiler Co.
Parker, Preston & Co. Inc. Waterproof Shingle and Brick Stains
Pequot Brass Foundry Co.
Perkins, John C. Manufacturing Confectioners
Ponemah Mills Co.
Porter, H. B. & Sons, Fine Cabinetry
Potter, W. P. and C. P. Coates's Non-Gummable Mucilage Bottle
Puritan Manufacturing Co. Saw Sets
Quilan, John C. Monumental Granite
Reliance Worsted Co.
Ring, Michael B. Carriage and Wagons
Rogers, Woodbury O. Automatic Poultry Exerciser and Feeder
Scott and Clark Corp. Carriages, Wagons, Carts, and Trucks
Shetucket Co.
Shetucket Harness Co.
Sussman, Morris, Mattresses
Tobin Arms Manufacturing Co.
Totokett Mills Co.
Tracy, C. Oscar Brass and Bronze Casting
Turner, Emerson P. Manufacturing Co. Cords and Twines
Ufford, Frank M. Swiss Sponge Cloth and Machine Wiping Cloths
Ulmer Leather Co. Maker of Fine Belting for Industry
Uncas Specialty Co. Automobile parts and Specialties
Vaughn Foundry Co. Iron Castings
Yantic Woolen Co. Flannels and Ladies' Dress Goods

Author's Note: Of the sixty-five manufacturing companies listed, only two now remain in Norwich. Norwich Paper Box Company's name has been changed to Atlantic Packaging and the Norwich Gas and Electric Department has had its name changed to The Norwich Department of Public Utilities.

The Norwich Board of Trade was established to encourage industries to expand and enter Norwich. Examples of the growth of the Norwich industrial

community is illustrated through the increases found in the manufacturing side of Norwich. The pamphlet of February 1, 1906 stresses this growth:

	1900	2008	1905-06	2008
Wages	\$1,367,394	(\$33,656,594)	\$2,033,145	(\$46,356,860)
Capital	\$6,438,313	(\$147,629,172)	\$8,474,802	(\$158,470,515)
Value	\$5,242,851	(\$127,045,815)	\$7,699,503	(\$175,553,055)

During the next few years extensive repairs and replacements were made to both the gas and electric plants. The Department billed the City at cost for street lighting which represented quite a savings from the amount the prior company billed. This may have influenced the Norwich Common Council in its decision of April 2, 1907, in directing the Department to keep the lights burning all night. Prior to that, the City's 287 incandescent lamps and 216 arc lamps burned until 1 o'clock A. M.

The Department experienced difficulty with electricians and plumbers connecting appliances ahead the meter, or connecting appliances without the knowledge of the Department with the subsequent overloading of transformers. August, 1907, the Board of Commissioners requested the Common Council to pass ordinances regulating "contractors who look to their own convenience and advantage quite as much as to the convenience or advantage of the City or the owner of the building." This appears to be the first expression for some type of wiring and building code. On September 1, 1909, the Commissioners again requested of the Common Council to pass some type of regulatory ordinance, predicting that electrical growth would be very rapid.

The Department kept the citizens and businesses up-to-date concerning the needs to upgrade service. Even before the need for additional electricity and gas became evident, the Department continued to improve its distribution system and plant capacity. Electricity became the lighting of choice and power had to keep constant. The City turned to hydro-electric power supplied by Uncas Hydro, a private concern, for use.

The City wanted to have the availability of this hydro-electric power even though it proved to be necessary but costly. Although the cost seems small today, that being \$0.01 per kWh, the cost in today's money would be over \$0.16 a kWh.

The hydro was limited due to the water available in the river. During high water flow there were few problems evident, but dry season caused hardship in the electrical plant's around the clock operation.

On December 2, 1908, the Uncas Power Company notified the Commissioners by letter that they would begin furnishing electric current on December 7, 1908, in fulfillment of the requirements of their contract. Acting under this contract, the Commissioners appointed as their arbitrator Alexander J. Campbell of New London, manager of the New London Gas & Electric Company, and the Company appointed in their behalf H. S. Hunt, the engineer in charge of the construction of their plant, and these two appointed John M. Thayer as a third arbitrator. They viewed the power station, sub-station, transmission lines and apparatus of the Company and witnessed practical tests and demonstrations of the operation and capacity. The Company began furnishing current to the City on December 15, 1908, as the cost of one cent per kilowatt.

Mr. Manufacturer !
Follow President Taft's Example !
Come to Norwich !

In addition to our many other advantages, we now offer you the following exceedingly low rates for

ELECTRIC POWER :

From 1 to 500 K. W. Hrs. used in one month, 5c per K. W. H. For all quantities over 500 used in one month, 5c per K. W. H. for 500, and 2c per K. W. H. for the balance.

At the above rates the average cost per H. P. Year for different capacities, figured on nine hours per day and 300 days per year, will be as follows:

10 H. P. average cost per H. P.	\$58.27
25 H. P. " " " "	47.48
50 H. P. " " " "	43.88
100 H. P. " " " "	42.00

"THE ROSE OF NEW ENGLAND" is destined to become nationally known as THE HOME OF CHEAP MANUFACTURING POWER.

City of Norwich
Gas and Electrical Department.

This advertisement puts forth the Gas & Electric as an incentive to come to Norwich.

With the recent visit to Norwich of the president of the United States, for its 250th anniversary of its founding, this proved to be a great ad for the Department. The rates were 'cheap' for Connecticut and this proved to be an advantage.

By 1912, the Department showed, since the purchase, a net profit of 200 thousand dollars after paying off the original loan of 227 thousand dollars as well as interest on other bonds. The book value of the plant increased to 442 thousand dollars. The total cost to the Department was 442 thousand dollars. During 1912, the Board of Commissioners contracted for another Curtis Machine of 2000 KW, along with the necessary auxiliaries. Of note, the Gas Division laid a new gas main from Burnham Square across Preston Bridge through Talman, Spruce, Center Streets and Laurel Hill Avenue to a new building called Thermos. Of this action, the Board said, "We expect this new industry will make a very large increase in the output of gas and will probably make it necessary to build a new and much larger holder and other additions to the gas plant."

In the 1913 report by the Commissioners, the efficiency of the plant and the new boilers helped to reduce the cost of current purchased from the Uncas Power Company, but the City did incur a cost increase in the cost of coal purchased to feed the boilers of the system. New gas and electric meters, added to the system, increased to over 5,760 for the 1915 fiscal year, showing the greater increase in electric light meters.

In 1914, a disagreement with the City treasurer erupted concerning how the books were being kept. The Commission stated, "The City Treasurer has charged this Department with all interest of every nature since the purchase of the plant by the City, and this Department has never given the City treasurer credit for the same on the Department's books." Because of this, the net profit was reduced to 24 thousand dollars and the Commissioners divided the Treasurer's account into sinking fund, reserve fund, and working cash, thereby alleviating any discrepancies in the books.

A note of interest should be included here. The cost of gas had held at \$1.15 per thousand cubic feet, but due to rising cost it was increased to \$1.25 in 1917. This twelve year constant charge allowed more customers to purchase the product. The Commissioners also requested a raise in the price of electricity from 8 cents per kwh to 10 cents due to the doubling of the cost for both steam and gas coal. The Commissioners requested that a retrieval system for the coal tar be instituted in order to reclaim it from going into the Shetucket River. The tar would be sold for profit for the Macadam trade (tar for street use in paving). The Commissioners also

compared the municipal plant and its cost to consumers to other municipal and privately owned electrical plants. The plants were located in Taunton, Mass., Holyoke, Mass., Worcester, Mass., and Salem, Mass. The Norwich Municipal Gas & Electric Plant provided power, in all cases, cheaper to its customers.

Costs were becoming a factor in the budget of the Gas and Electric. Pre-World War I gas coal costs were charged at \$4.25 a ton, but by the time of our entrance into the war, the Department was paying \$8.85 per ton delivered.

The April 30, 1918, report provides insight into the problems during World War I.

“Unlike the Water Department, which stores one of nature’s great gifts and distributes it to customers, the Gas and Electric Department has to manufacture by complicated processes the light, heat and power it delivers. The elements entering into this manufacturing are subject to wide fluctuations of cost, and of late it has been increasingly difficult to obtain adequate supplies at any price.

Engines, boilers and generators wear out or become obsolete. Poles and wires have constantly to be renewed.”

The report goes on to state that the reason for loss of needed materials was the need for war material production and activities. Another area of difficulty for the Department was that at the time of purchase, the Norwich Gas and Electric Company has 400 thousand dollars outstanding in bonds. Part of the purchase agreement was the meting of the interest of these bonds by the Department and the paying of them off, but nothing had been done to retire the bonds.

The following years showed growth in both the gas and electric departments. New gas mains were laid and the cost of city lighting, both Gas and Electric rose to \$23,218.21. Newer and more efficient incandescent lighting raised the cost of this expenditure to \$23,346.91. The Department had grown to a thriving, profitable business. From a zero investment of tax money, the City now had a money making business worth well over one million dollars. The sustained profit making Department proved to be an eye-opener to two companies waiting in the wings: The Eastern Connecticut Power Company and the A. E. Fitkin & Co.

THE PROPOSED BUYOUTS

The City received a purchase request from the Eastern Connecticut Power Company to sell the City of Norwich's Municipal Gas and Electric Plant and all electric lines and gas pipes. The sale price would have been \$2,500,000 for the property. A special committee of the Court of Common Council: Mayor Milo R. Waters, Alderman Henry Gebrath, Edward Crooks, Councilmen Walter H. Aldrich and Alfred G. Lillibridge, was held relative to the two proposals of the Eastern Connecticut Power Company for the purchase of the municipal gas and electric plant or the city selling of electricity to the city were made by the Board of Gas and Electrical Commission.

The following letters from Mayor Waters to the Board and from the Board to the Mayor concerning the proposed buy-out follow:

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Norwich, Connecticut
July 17, 1924

Board of Gas & Electrical Commissions,
City of Norwich.
Gentlemen:

I am directed by the Special Committee of the Council in regard to the sale of the city electric plant to or the purchase of electricity from the Eastern Connecticut Power Company to submit to the Board the following question:

Knowing that the propositions in regard to the sale to the City have been made to the Board and have been discussed by it at various times during the past two years and that they have thoroughly investigated the matter, the committee requests that they will state to them officially, their opinion as to the advisability of making such a contract and the reason therefore. I am directed to request that a meeting of the Board be called at an early date to act on this matter.

Respectfully,
Milo R. Waters
Chairman of Committee

Following much discussion the following appeared in the Norwich Bulletin as a letter to the citizens of Norwich:

Recommends Rejection of Offer

Eastern Connecticut Power Company

In a statement to the special committee the board of gas and electrical commissioners recommends the rejection of the proposal of the Eastern Connecticut Power Company to purchase the plant and calls attention to the fact that for the last fiscal year of the department, ending April 30, 1924, a loss would have been incurred if energy had been purchased from the power company under the terms of its proposal. The statement follows:

To the Honorable Milo R. Waters, Chairman and the Members of the Special Committee of the Court of Common Council:

Gentlemen:

The Board of Gas and Electrical Commissioners beg to respectfully submit the following statement in reply to your communication of July 17th, in relation to two proposals submitted to your Committee by the Eastern Connecticut Power Company.

We Recommend:

a. That the offer of the Eastern Connecticut Power Company, to purchase the City's Gas and Electric plant be rejected, for the reason that the price named, is, in the opinion of the Commissioners, inadequate and much less than the property would bring if offered for sale in an open market.

b. In relation to the proposal of the said Eastern Connecticut Power Company to furnish all electrical power required by the department to meet the City's need, other than that now being furnished by the Uncas Power Co., we respectfully submit for your consideration, a report prepared for us upon the subject by General Manager Charles W. Taggart, and which report we have accepted and hereby make a part of our reply to your committee. We would direct your attention to the fact that this report shows that, for the last fiscal year of the Department, ending in April 30, 1924, a loss would have been incurred if energy has been purchased of the Eastern Connecticut Power Company under the terms of their proposal.

The report also calls particular attention to the several conditions in the proposed contract that, if accepted, would, in our judgment, operate to the detriment of the city.

This we consider particularly true, in the matter of the application of the "demand charge" proposed.

At the present time the department sells its energy to its customers upon a flat rate basis, varying according to the character and quantity sold to the consumer. If the same method of sale is to be continued, the city would be purchasing power from the Eastern Connecticut Power Company on a "demand and energy charge" basis and this under the present load

conditions might be questionable policy and would require much careful study and consideration.

If the city should change its method of selling to a “demand charge” basis similar to that, under which it would purchase its energy, the majority of its power users would be penalized by the charge.

The city now holds a contract for approximately nine years with the Uncas Power Company and pays for the energy delivery to it upon a “flat KWH rate basis” of .01 per KWH delivered at the city station in Norwich on the 2300 volt side of the transformers.

The Uncas Power Company is now owned and controlled by the Eastern Connecticut Power Company and the operation of the Uncas plant and the use of the stream flow of the river might so be regulated as to materially increase the “demand charge” which the city would be called upon to pay under the Eastern Connecticut Power Company proposal.

Under the proposed contract the rates named therein are not for the entire proposed ten year period, but are subject to revision, and, if necessary by arbitration, at the end of the first three years and thereafter every two years.

The contract further provides that the Eastern Connecticut Power Company, while it agrees to exercise reasonable care and diligence to prevent interruption to service, “shall not be liable to the city for loss, cost or damages resulting directly or indirectly from interruptions,” and it does not guarantee uninterrupted service. This fact is mentioned because interruptions to service are more liable to occur when energy is furnished over transmission lines, than when produced in a local power station.

We would respectfully suggest that it is both necessary and essential that your committee should carefully study the terms of the proposed contract of the Eastern Connecticut Power Company, a copy of which is enclosed herewith, inasmuch as Mr. Taggart’s report discusses in detail the several paragraphs into which the proposed contract is divided.

If there is additional information we can furnish you in connection with the subject, please be assured that we shall be very glad to secure the same if we can possibly do so.

Respectfully submitted,

Commissioners,
James L. Case
Clarence E. Carpenter
Frank O. Welch
Jeremiah A. Desmond

In the August 23, 1924, edition of the Norwich Bulletin, the Eastern Connecticut Power Company offered explanations to the buy-out and the benefits that could be attained by the City. Twelve different areas were covered including; lines and equipment, and the need of the City to purchase extra power because the electric plant was inadequate for the purpose of supplying the necessary power. The Commissioners answered the questions, allowing for the citizens to interrupt.

The following is General Manager Taggart's Report:

Dear Sirs:

With a view no determining the value to the city of Norwich of the rates proposed by the Eastern Connecticut Power Company to sell power, I have prepared a comparison for the last fiscal year of the department, namely ending April 30th, 1924, of the actual costs of operating the city's plant and what the cost would have been if energy has been purchased from the Eastern Connecticut Power Company in accordance with the rate submitted by them in their proposed contract.

For the twelve months ending April 30th, 1924. Actual cost of generation of energy by city:

KWH generated,	6,547,748 KWH
Cost of production including	
Maintenance as per the department's books	\$162,660.00
Final cost of operating city's power station	\$184,000.00
Additional cost to city if power had been purchased	\$ 13,486.00

This report did not include the cost of free street lighting and electric power to public buildings that added up to \$27,093.49. This would have been added to the mil rate. Today's value would have been \$325,988.26. This was the cost of only one year. But, this was not the only buy-out proposal for the Municipal Plant.

A. E. Fitkin & Co.

In 1916, the A. E. Fitkin & Co. purchased H. M. Spalding Electric Light Plant paving the way for expansion in a new market. With Lemuel Green as a partner in other electric plants in the Missouri area, Fitkin and Company became the leader in franchising electrical service across the country. Serving 56 communities south and east of Kansas City and 35 towns in southwestern Missouri, the company wanted to branch out to the East. Since the proposed buy-out by Eastern Connecticut Power Company made economic news, Fitkin saw an opening in the eastern United States. Presently, the company is known as UtiliCorp/Aquila with nine subsidiaries doing business in the United States and foreign countries.

On December 29, 1924, Mr. Arthur M. Storey, President of the Chamber of Commerce received a letter from G. R. Trumbull, of the A. E. Fitkin & Co. concerning the possible sale of the Norwich Gas and Electric. A. E. Fitkin & Company had been actively engaged in Public Utilities for many years and had a sound reputation in the power production field. At that time it owned 34 individual Public Utility Companies located in 8 states with a value of \$40,000,000. Each company was a growing substantially and had been considered by the local citizens in those locations as a valuable asset.

Mr. Trumbull stated:

The General Engineering & Management Corporation, an organization owned by A. E. Fitkin & Co., is the vehicle through which all of the Fitkin properties are managed and operated. This organization consists of experienced and competent engineers, auditors, construction engineers, financial experts and others necessary to thoroughly and satisfactorily operate and manage public utilities and ranks high among its kind in the industry.

One of the most important phases of successful public utility operation is good public relations. A. E. Fitkin & Co., point with pride to the fact that the relations with the public in all of the communities in which we operate are of the most cordial and satisfactory. This is fundamental and it is our constant endeavor to continue to improve this Public Good Will by more and better service at a reasonable and equitable price.

The benefits to City and citizens by selling the property to a responsible organization at the price offered are overwhelming. For one thing, the present City indebtedness is \$2,415,126.00 including the \$400,000 bonds of the old Norwich Gas and Electric Company. With \$3,000,000 the entire city indebtedness can be liquidated and a balance left of \$584,874.00, which is considerably more than enough to retire all of the City's indebtedness in the property since its acquisition. This would be an enviable condition and position for any City to be in – probably unparalleled any place in the entire country.

The effect of such a condition is obvious to the taxpayer and must be a source of pride in every citizen. For another thing, the tax revenues of the city would be increased annually by many thousands of dollars if the property were privately owned. This cannot fail to be recognized by every taxpayer as directly beneficial.

Naturally, one of the first things coming to the mind of the average citizen is – does the sale of the City property to a private corporation mean increased rates. We are on record with the Mayor's Committee, with the Court of Common Council and by a public statement in the newspapers, that our offer does not include any consideration of raising any rate, that our offer was based on earnings and rates as they exist at the present time and that we are prepared to give any further assurances to that effect that the City and Citizens may desire.”

Mr. Trumbull offered statistics concerning Municipal versus Private Ownership of utilities using the 1921 United States Census Annual Report which states:

Cities over 10,000 population.

Total number of cities over 10,000 population in U. S.	746
Number such cities serving exclusively by municipal systems Generating and distributing electricity	27
Number served exclusively by municipal systems Purchasing all power	8
Number municipal systems I n cities over 10,000 population Doing street lighting only, depending entirely on Companies for commercial service	42
Of these power is purchased from Companies by	14
Number municipal systems in such cities generating and Distributing power for street lighting only	28
Total number municipal electric systems (including those giving only partial service) in cities over 10,000 population	113
Total number such systems purchasing power from companies	35
Population served exclusively by municipal plants in Cities over 10,000 population	487,000
Population served by companies in such cities	44,226,000

The letter goes on to say:

“The actions and intentions of your Council plainly indicated that the only logical way is being opened for the real owners of the Gas and Electrical Department, the Citizens, to decide definitely for themselves as to whether they wish to retain or sell their own property. Indirect obstruction and politics played before the voters are allowed to decide the matter will only confuse and irritate. We believe that public spirited Organizations such as yours cannot fail to enlighten the citizens as to the real issue in this proposition and see that the whole matter is carefully and completely presented and understood with all its various ramifications.”

A comparison was also made concerning the various electrical rates offered in Connecticut, Massachusetts, and Rhode Island at that time. The

Connecticut companies averaged a rate of 10.86 cents per KWh. The Massachusetts' electrical plants with a population of 10,000 or more averaged 12.85 cents per KWh. The Rhode Island plants averaged 10.5 cents per KWh. This proved to be an interesting event for the City of Norwich. Two large power companies wanted to purchase its plants within a very short time.

The Gas a& Electric Department put forth the following facts about the Department for the general public to read comprehend.

FACTS About The Gas & Electrical Department

Question: What is the Gas and Electric Department?

Answer: The Gas and Electric Department is a public utility, operated under the laws of Connecticut governing public utilities, and owned by the City of Norwich.

Question: What is its value?

Answer: The book value, that is the money invested less depreciation, is \$1,286,764, but the actual value is much more for the reason that state law requires that the book value be decreased by 5 per cent each year to allow for wear and tear, ageing, and so forth. This allowance is too much; does your house, land, and other property lose 1-20th of its value in one year? Doesn't it sometimes increase in value?

Question: Did the city pay \$1,286,764 for the business?

Answer: No. Bonds were issued for \$277,000 with interest at 4 ½ per cent, and this interest has always been paid out of the earnings of the business as has been interest at 5 per cent, on the \$400,000 first mortgage bonds.

Question: Why did the voters at the annual city meeting appropriate money for the Gas & Electric Department?

Answer: Every year the department estimates what will be taken in the next year in cash for gas and electricity sold by the department to its

customers. This can be done fairly accurately because the gain in business each year is steady. At the city meeting, the department asks permission, or a formal permit, to spend this money which it will take in. This formal permit is called an appropriation.

Question: For what does the department spend this money?

Answer: To pay for coal, oil, and all products entering into the manufacturing Of gas and electricity, to pay wages, and to replace worn out machinery, to keep its property in good repair, to extend its gas and electric lines, and to pay interest on the money invested, and to care for sinking fund and reserve.

Question: Is the business profitable?

Answer: Yes. The profits, except \$24,138.66 which was used by the city for other purposes, have been used to make the property bigger and better. This is shown by the following fact:

The difference between the value of the property and the indebtedness of the department shows that there is money invested in the business that was neither there when acquired by the city nor since obtained from bond sales or loans. This extra investment has been derived from the profits. In addition thereto there are now cash balances in the sinking fund and reserve accounts amounting to \$82,834.73. The profit and loss balance amounts to \$654,314.90.

The Norwich Bulletin informed the citizens of the progress involved in the proposed sale of the Gas and Electric Department.

**COUNCIL 7 TO 5 FOR CLEARING WAY FOR CITIZENS TO VOTE
ON G. & E. SALE
Norwich Bulletin December 12, 1924**

By a 7 to 5 vote the court of common council at a special meeting Thursday evening approved the \$3,000,000 offer of A. E. Fitkin & Co. of New York for the purchase of the city's gas and electric plant on North Main Street, and adopted a resolution approving the petition of the Fitkin interests to the general assembly of the state asking that they be granted a charter with permission to acquire the plant through a referendum vote. While the council's special gas and electric committee approval of the Fitkin offer, it expressed no opinion as to whether or not the plant should be sold, but recommended that the voters of the city give their approval or disapproval on either a ballot or machine vote.

The meeting was called to order about 8:30 o'clock by His Honor Mayor Milo R. Waters with one absentee, Councilman F. Russell Smith. The minutes of the previous meeting were accepted without reading, according to custom, and the council then took up the report of the special gas and electric committee appointed to consider the offers for the plant. The offers made by the three bidders, Central Connecticut Power and Light Co., the Eastern Connecticut Power Co., and A. E. Fitkin & Co. of New York, were read by City Clerk Weston R. Pullen, following which the clerk read a letter received by Mayor Waters Tuesday from the old Norwich Gas & Electric Company. Another letter read, dated December 8 at Watertown, Conn., and signed by Alex J. Campbell, president of the company, stated that it had come to the attention of the company that the sale of the G. and E. plant was contemplated by the city and calling attention to the fact that the Norwich Gas and Electric Co., original owners of the plant, have franchise rights to sell power here. The letter stated that it was felt the company should have opportunity to submit an offer. There were no other new offers.... The Fitkin Report petition to the general assembly was signed by A. E. Fitkin, J. J. Desmond and Angus Park. The clerk read as follows:

To the honorable General Assembly of the State of Connecticut at its session to be held at Hartford on the first Wednesday following the first Monday of January, A. D., 1925.

The undersigned respectfully request that they, with their associates and assigned, be granted a charter so that they may be authorized to acquire from the city of Norwich its gas and electrical department including all the assets of said department, its buildings, real estate, plants, machinery, meters, gas holders, also its electrical generating and transforming stations, distributing wires and systems, poles, feeders, transformers, and all assets of said department including its accounts received and cash on hand and in banks and all other property of said department, excepting such assets of said department as have been set aside for a sinking fund on account of certain bonds of the city issued in aid of the Gas and Electric Department and due in 1951, amounting to approximately \$16,000, including in the property to be acquired from the Norwich Gas & Electric company now owned or enjoyed by the city in respect to the said department; the property to be transferred subject only to the current liabilities of the department, which are to be assumed, and to bonds issued by the Norwich Gas & Electric Company of \$400,000 face value, due in 1927, which will remain outstanding.”

The results of the vote by the members of the common council for the resolution were: —7 for the resolution; against the resolution 5. Resolution was declared adopted. The vote showed the Republican members of the council supported Mayor Waters and Alderman Gebrath and the democratic members voted against them.

The Commissioners noted that two major electrical power companies wanted to purchase the Municipal Plant, one for \$2.5 million dollars and the second for \$3.0 million dollars. If in such a short time the proposed sale price increased by one-half million dollars, what was the true price of the plant?

With the Department's continued rapid growth, the 1926 net profit was 121 thousand dollars. Of this money, 40 thousand dollars were paid into the City Treasury for general expenses and reduction of the City tax burden. This was the first direct payment from earnings from the Department to the City Treasury, although the general fund has acquired Department monies through somewhat indirect means. The actual amount of money the City has acquired from the Department for its general use was \$269,725. In addition, many indirect savings such as the cost of street lighting and providing gas and electricity to public building, lavish Christmas lighting, etc..

The City's Great White Way, referring to the bright street lighting had been installed down city and a Home Service Department, with an cooking instructor for the 'Tell Them About Cooking With Gas' promotion was about to be opened.

Electric rates were kept low. Reductions in the rates in the area of residential supply were in place for each of the years 1928, 1929, and 1930. The Gas Department also built its new 1 million cubic foot gas holder as well as the purchase of added property on South Golden Street was made to house the storerooms, garage, and service shops.

The Great Depression caused great financial hardship on the Department and its workers. In July 1933, an 18% pay cut went through plus the number of hours increased per week. These wages were not restored until 1937 as the effect of the Depression lessen.

HYDRO-POWER

The City continued to profit from the Gas & Electric Department's revenue, lessening the tax burden and reaping monies for the city through the purchases of local material and wages of the workers. In 1927, the Second Street Hydro was added to the power sources of Norwich.

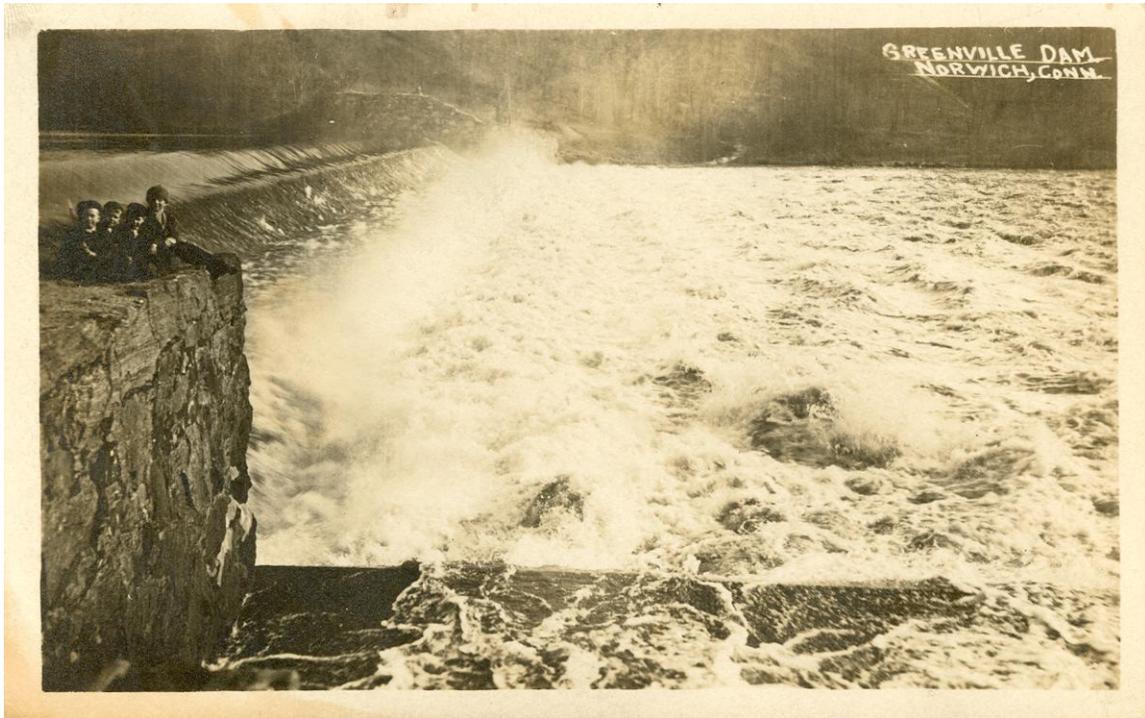
Norwich's Hydro Power

The Second Street Hydro

The development of hydropower evolved because of the abundant water flowing over falls in the Norwich area on its way to the sea. Industry took advantage and become more efficient therefore provide a good bottom financial line. In 1826, William Greene (1775-1864) purchased land on both sides of the Shetucket River with the intent on developing this land. He conveyed this land to the Norwich Water Power Company which was incorporated in 1828. Mr. Greene was the largest shareholder of this newly formed company. He also oversaw the development of an area of Norwich, which is now known as Greenville.

James Baldwin, an engineer, began construction of a dam in 1829, about 1,200 feet north of the present Greenville Dam. (The remains can still be seen today at low water.) By 1833, the dam and canal were complete with several factories in operation. The 7/8 of a mile long canal provided enough power to energize between 40-50 thousand spindles for the cotton industries. Presently, the oldest building on the canal dates back to 1840, with the majority being built around 1900.

In 1880, engineer Hiram Cook became the president of the Norwich Water Power Company and he surveyed the power from the water wheels that totaled between 1600-1700 horsepower.



The head gates of the new dam were widened to increase the water capacity of the canal and also increased the size to 65-100 feet in width and ten feet in depth.

The new dam was 399 feet across and cost \$60,000.

Courtesy: Roy Bourque



A disastrous flood took place in 1886 that took out 68 feet of the central portion of the new dam. The rubble masonry with granite coping was repaired utilizing wood cribbing filled with stone, similar to the now existing dam.



Courtesy: Roy Bourque

Greenville Dam Flow

In 1926, the City purchased the water rights and land from the Atlantic Carton Company for a new hydro station on the canal of the Norwich Water Power Company at 2nd Street. An order was received by the James Leffel & Co. for twin 72” diameter vertical propeller type hydraulic turbines. The 1928, the Second Street Hydroelectric Station was put into operation, utilizing two 500KVA Westinghouse

generators designed to run at 225 rpm, with 3-phase, 60 cycle. A 20-year contract with the Norwich Water Power Co. was renewed for 5 years effective January 1, 1947 and renewed for an additional five-year period effective January 1, 1952. This new contract included a provision for piping water from the canal to the steam station for condenser cooling. Both wheels were operating until 1988 when wheel one failed due to the loss of one of its blades. A new turbine was installed and they still operate today producing emission-free power for the citizens of Norwich.

Occum Hydro Plant

In 1936, a second hydro station was placed in service on the Shetucket River at Occum. The Department acquired an existing dam, rebuilt the headwords and tailrace, and constructed the plant. An 800 kW, 4,800 volt, 3-phase generator was installed at this location.



Occum Hydro and fore bay: Courtesy: Roy Bourque

On September 18, 1938, it began to rain heavily and continued until September 21st. The Shetucket River at the Occum Plant was at flood stage during these three days. At noon on the 21st, the river level began to recede and a sigh of relief seemed reasonable. Unfortunately, seven dams above the Occum plant had successively burst and the water reached Occum at 2:15 PM. The Occum Hydro Plant was abandoned at 2:30 PM, as the water overtopped the embankments. The dam later let go and the bridge below was washed out. At 5PM, the waters of nine dams came into the Quinabaug River that was already at a high stage, and this added deluge raise the Shetucket River, passing over the Greeneville Dam, flooding Norwich, located down river to the height of 5 to 8 feet. Unknown to most people on the eastern coastline, the rain and wind came with the 1938 Hurricane. The Norwich area received 17 inches of rain that day. The Occum Hydro Plant Dam was restored and improved and made flood proof.

The Occum Hydro Plant

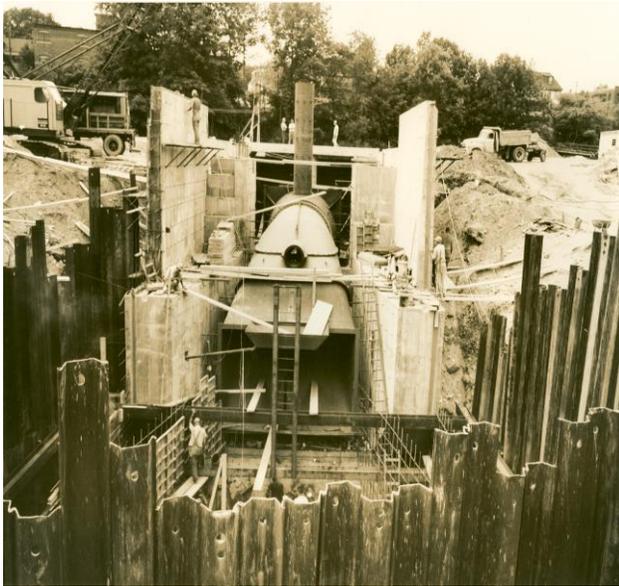


The Department's distribution system was just about completely wiped out; 75% of it was completely destroyed. The City was a water soaked jungle of downed trees, telephone poles, and wires. As an example, 2,500 trees were cut from the roads just in Mohegan Park, not including the byways and highways of Norwich. The Department's storeroom located at the South Golden Street facility was flooded and the three essential motors for the Gas Division were knocked out due to heavy water damage. The Department made arrangements with the American Thermos Bottle Company to dry out the motors. The gas was essential for the heating of the gas sands used at the Thermos and this assisted the Department in the production of the gas for their furnace and bottle making equipment. The Gas Plant was placed back on line with only one hour's worth of gas remaining in the holder. CP&P assisted by bringing in a temporary transmission line to the North Main Street facilities. Line crews came from as far away as: Toledo, Ohio (2 crews); New Castle, Penn. (one crew); Cincinnati, Ohio; (one crew); and three crews from Philadelphia, Penn. The Department utilized these crews and the payroll jumped to 300 employees. The Greeneville Hydro (2nd Street) was not back into commission for two months. 253 thousand dollar loans had to be taken in order to assist in the rebuilding of the infrastructure of the Department. The entire cost of the Hurricane of 1938 was in excess of a half-million dollars.

In 1961, the City of Norwich purchased the Greeneville Dam, headgates, canal, and water rights with the intent of building a new hydro station. The Tenth Street Hydro Station was completed in 1966, operating with a horizontal Kaplan unit built by Allis-Chalmers Manufacturing Company. This 1999 horsepower hydro with its 1750KVA generator was designed to run at 128.6 rpm.

Roy Bourque, a long time hydro supervisor for the Utility states that the hydro's are seen daily for oiling of the machinery and the cleaning of the trash rack. Debris must be taken off of the rack to insure good water flow. He indicated that at the beginning of winter, the skim ice that occurs on the inflow often clogs the intake at the rack and the ice must be removed by hand. Once the ice is thick enough, it

does not cause a problem. He feels that the future needs of the hydro plants will be upgrading the caplets to allow the use of less water, yet producing the same amount of power. Many of the pictures in this history are courtesy of Roy, an avid photographer and pilot.



Building and installation of the Allis-Chalmers MFC Co. turbine



Turbine blades of the Tenth Street Hydro-electric Station

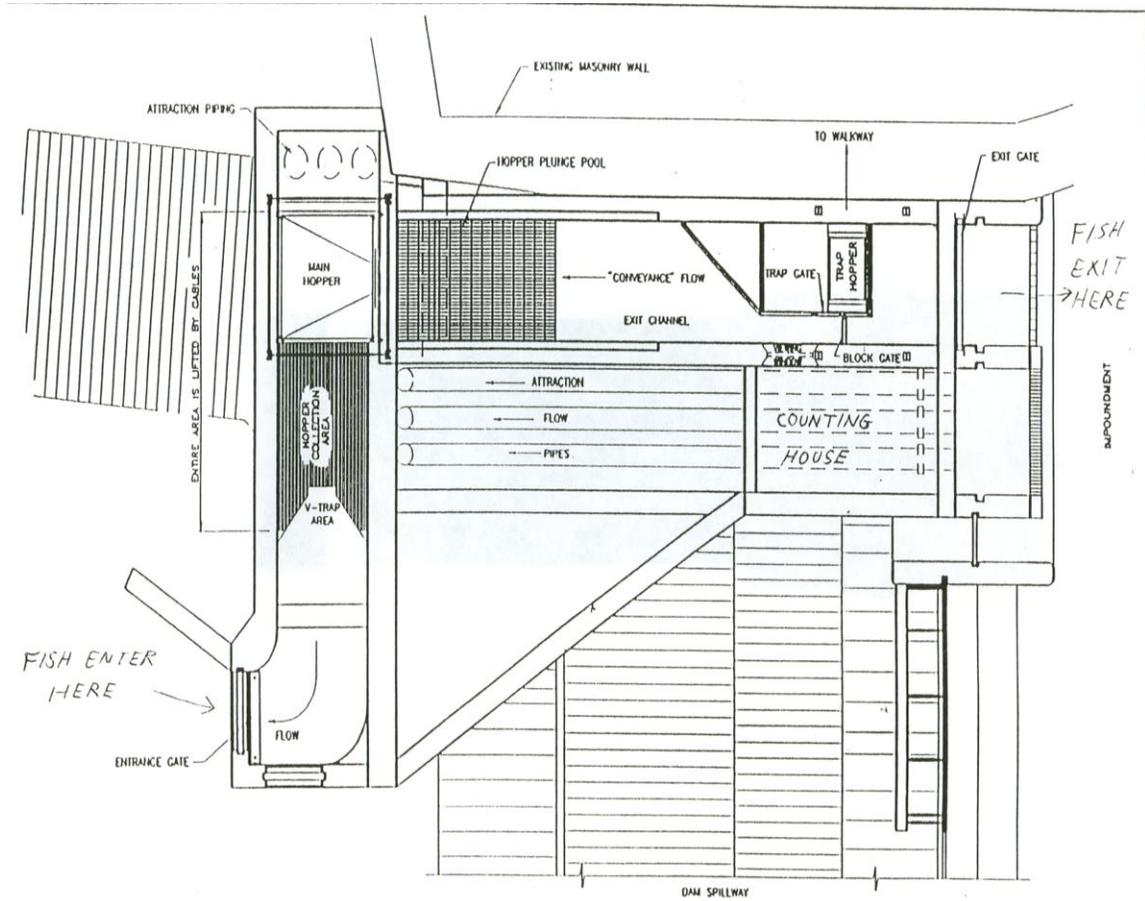


Completed Tenth Street Hydro Plant

In 1988, the City of Norwich Department of Public Utilities began negotiations to renew their license on the Greenville Dam Project. Kleinschmidt Associates was hired as the consulting firm to handle the negotiations. At this time, the State of Connecticut Department of Environmental Protection requested that the City of Norwich install a fish passage facility at the Greenville Dam to promote economic development in this area of the city. The city was given the option of building a fish ladder or a fish elevator, with the understanding that if the amount of fish exceeded the capacity of the fish ladder, a fish elevator would have to be built at a later date. Brunalli Construction was awarded the contract to build the fish lift facility, which includes a downstream passage located in the canal, and an upstream passage, which is located on the western side of the dam.

The downstream part of the passage was begun first, comprised of an angled bar rack with 1 inch spacing and a 3-foot downstream migration pipe. The angled rack is equipped with a hydraulic rack cleaner which removes debris from the face of the rack. Completion of this portion of the project occurred in the summer of 1995 with the completion of the upstream portion occurring in the summer of 1996.

Target species was identified as American and Gizzard Shad, Alewife, Blueback Herring and Sea-run Brown Trout. The lift was sized to allow the passage of 110,000 adult American Shad and 165,000 adult river Herring. The NDPU hired a biologist to monitor the operation of the fish lift. It began operating on May 16, 1996 and was expected to operate from March 15 to July 30 yearly.



PLAN VIEW

GREENVILLE DAM
UPSTREAM FISH PASSAGE

FIGURE 1

— KLEINSCHMIDT ASSOCIATES —

The Norwich Department of Public Utilities produces 5% of the power used by its customers utilizing these green hydro plants.



American Shad and stripper shown at the fish light viewing port. Courtesy: Roy Bourque

During the war years, restrictions were placed upon the Department for the production of power and gas. This also continued following World War II when many service men returned home, striving to live the American way of life. A Norwich Bulletin article from April 18, 1947, illustrated the change in life as coal miners went on strike, wanting to end the war time restrictions on wages.

City G. & E. Department Calls for “Brown Out” by Stores Norwich Bulletin April 18, 1947

Following a state order for the reduction of coal in the use of gas and electricity, the Norwich Gas & Electric Department has asked the cooperation of the citizens of Norwich in an effort to overcome the present coal shortages.

Until the coal strike is settled and there is again a sufficient amount of coal, the proprietors of stores are requested to cut out their outside electric advertising decorative and ornamental displays, window and show cases lighting as well as comfort air conditioning.

This means that the city, following the example of other towns in the state will once again go into a dim-out that was most familiar to the citizenry during the war.

Gas consumers are also asked to cooperate in the present crisis by not using excessive amounts of gas and by using it scientifically when they have use for it.

Once the strike was over, the lag time from the mining and shipping of coal to the actual delivery was extensive due to the reliance on coal for gas and electric production in the United States.

On June 30, 1947, the Gas & Electric held an open house for the public at the Department plant initiated by General Manager Theodore Braaten. Visitors were escorted through the plant between 10 a.m. to 4 p.m. Distribution, meter, gas departments, and the steam station were toured.

The Gas & Electric Department needed added space for its customer service department and the general office needs. The July 1, 1947, Norwich Bulletin reported this activity.

City Purchases Shetucket Street Building for G. & E. Offices

Negotiations were practically completed for the sale of the building at 28-38 Shetucket Street to the city of Norwich by the Uncas-Merchant National Bank. Herman Sharpe, president of the city board of gas and electric commissioners, when interviewed this afternoon, admitted that an agreement has been entered into between the bank and city, whereby the city will acquire the property on or before August 1, for the sum of \$55,000. The deal was made through the office of John A. Moran and Son.

The imposing granite front building, that for many years housed the defunct Thames Loan and Trust company, was purchased by the Uncas-Merchant National Bank in July, 1944. The purchase was made from the Ward T. Alling estate, which owned the building since Feb. 16, 1925.

As the 1940's ended, The Gas & Electric continued progress in improvements and expansion of services to meet the growing post-war boom. Service was extended to Melrose Park and Fairview Heights. New Lighting was installed with 125 new more efficient units in the city and 42 in the town area.

During this time, the Department relied upon the collection of debts to the Department by a non-centralized system. On March 1, 1942, Harold F. Desmond was appointed Credit Manager which was established for the first time. Under a strict policy, the arrears were reduced by 20% in a few months, allowing the company to continue supplying power to those who tried to pay their bills. Mr. Desmond served as Credit Manager until his retirement in 1960. Mr. Desmond assisted in the uniform system of accounts requested by the State Public Utilities

Commission. The Federal Power Commission also commenced their annual request for their voluminous report. It must be stated that most of the Department's records were lost in the Hurricane of 1938 which doubled the pressure on the Accounting Department of the Department.

During World War II, the Department lost personnel to the military's armed services. The personnel are listed below:

John S. Carter	Army
Woodruff T. Sullivan	Army Air Corps
Raymond B. Wheeler	Parachute Corps
Ellis L. Bentley, Jr.	Army Air Corps
John W. Gleason	Marine Corps
John Zdanciewicz	U. S. Navy
Charles H. Peckham	U. S. Navy
Patrick J. Coughlin	Coast Artillery
Patrick F. Faulkner	Coast Guard
Everett R. Drescher	Army Air Corps
Charles R. Sullivan	Army Air Corps
Leo Albert	Chemical Warfare
Gladys C. Pellerin	Woman's Army Corps

In 1943, the War Production Board ordered the Greeneville Steam Station closed for the duration of the war and that electric power be purchased from the Connecticut Light and Power Company. This was the first time since the plant began operating in 1887 that it was shut down for a long period of time. Seven employees were laid-off. Many problems arose due to the load and feed regulators being out of alignment. It took some time before the Norwich system met the load from CL&P. In 1945, the steam plant went back on line and the Department continued to purchase power from CL&P.

In 1946, Theodore Braaten was brought on as General Manager following the resignation of Leland Wood. His ill health was the cause of his leaving. Yet he lead the Department through the war time restrictions and regulations, dim-outs, brown-outs and black-outs, while still helping the Department contribute between 150-186 thousand dollars per year to the General Fund of the City.

Following World War II, four major industries were lost because of post-war reductions in the need for war materials. The Department lost Hamilton Standard Propeller Plant located in Taft Station along with Plastic Wire and Cable Company, Aralas, and W. L. Maxon Industries. In June 1947, the Department became a member of the American Public Power Association. The Tennessee Gas

Transmission Company petitioned the Federal Power Commission to serve Norwich with natural gas and the Norwich Board of Commissioners petitioned the Federal Power Commission

In General Manager Ted Braaten's First Report for the newly formed Norwich Department of Public Utilities after the water department was absorbed, he stated:

"Consideration should be given to our future power supply. The last generating unit was added to our steam plant in 1939. Our consulting engineers recommended that we install a gas turbine at the plant, in addition to the new tie-in with the Power Company, this turbine to be ready for operation upon termination of our Power Company contract in the fall of 1954. For our ultimate needs the construction of a new power plant on the Thames River, where abundant coal and oil are available, should be given serious consideration."

The 1950's became a time of growth in the Department. An agreement was signed in 1950 with Connecticut Light and Power for reserve power. Gas was the new provider of heat and hot water to much of Norwich. In 1952, arrangements were initiated to change over to Algonquin natural gas. In 1953, natural gas arrived from Texas on November 1, by way of the recently completed Gulf Coast pipeline as the gas department ended the manufacturing of coal gas. The tremendous job of converting all gas appliances on our system from manufactured gas of 528 Btu heating value to natural gas of 1050 Btu was very successful and accomplished with a minimum of confusion and complaints from the customers. Approximately 7,250 gas meters were involved. The cost of conversion was approximately \$200,000. This cost was written off over a ten year period. An added benefit came to the utility because the cost of gas received compared to the cost of the gas manufactured allowed the utility to have a profit of almost \$40,000 in the first fourteen months of natural gas usage.

Another change to the Department was the addition of the Water Department formally under the control of the Board of Water Commissioners. The Water Department and the Gas & Electric Department combined under the title of Department of Public Utilities with a five-man Board of Public Utilities Commissioners. During this special year, Norden Village's 145 new homes received full gas, water, and electrical services. Due to the distance from the closest sewer main, it would be many years before these homes would have all four utilities.

Another Buy-out Offer

Due to the Norwich Department of Public Utilities stellar performance in growth, customer satisfaction, and earning capacity, Connecticut Light and Power Company proposed in March 1957, to lease/buyout the Department on the following terms: 650 thousand dollars the first year, the yearly payments reduced by 25 thousand dollars each year to 175 thousand dollars in the 20th year with an option to renew the lease after 20 years, the yearly payment being then reduced 35 thousand dollars each year less than the 20th year payment or after the 20th year Connecticut Light and Power could purchase any property still in existence at a price equal to the then fair value of such property. One item of interest concerned the increase of electric rates the customers would have to be subject to so as to match the CL&P rates.

This proposal was later changed with new provisions provided in this following letter. This letter was in keeping with the 1924 buy-out proposal by Eastern Connecticut Power that now was the parent company of CL&P. In the 1924 proposal, the City would have received \$2,500,000 for its Gas & Electric Department. The new proposal would have given the City \$10,050,000 over twenty years. The cost of electric and gas service to the public buildings and the cost of street lighting would have to have been included in property tax increases (causing a large burden on tax payers).

The Connecticut Light & Power Co. Proposed Buyout Exerts

June 19, 1958

**City of Norwich
Norwich, Connecticut**

Dear Gentlemen:

The Connecticut Light and Power Company, a corporation specially chartered by the State of Connecticut, proposes to lease (through its

subsidiary, as hereinafter more fully set forth) from the City of Norwich, a Connecticut municipal corporation (hereinafter called the City), its gas and electric properties upon the basis of the terms and conditions herein set forth in Paragraphs A-P hereof. This proposal is made in substitution for our previous proposal to you dated March 11, 1957, as heretofore amended...

Paragraph 3

The rates to be charged by the Company for electric and gas service to customers now served by the Norwich Public Utilities Department will be the same as those of The Connecticut Light and Power Company then in effect in its Eastern Division. A copy of such rates as now in effect, on file with the Public Utilities Commission of Connecticut, is attached hereto as Exhibit 1....

F. Abandonments: The Company shall have the right in its discretion either to abandon and replace or to abandon without replacement any portion of the leased property determined by the Company to be no longer useful for its purposes, except land or buildings owned by the City in fee. The net salvage, if any, from the disposal of abandoned property shall belong to the company and the City shall appoint the Company its attorney to make all necessary conveyances and transfers of such property...

L. Competition by City: The City shall agree not to participate in the electric or gas business or otherwise compete with the Company during the continuance of the lease or any renewal thereof.

N. Property taxes: It is recognized that the amount of taxes and other non-rental payments which may have to be made by the Company to the City or Town of Norwich or to the political subdivisions thereof is a matter needing clarification. On the one hand, since there has been recent discussion of the possible enactment of a so-called "possessory interest" tax, the Company should be assured that in the event such a tax is authorized by the General Assembly, the burden of any such tax assessed during the term of the lease with respect to the leased property would not fall on it. On the other hand, the City has an interest in making sure that the Company will not deprive the City of tax revenue by locating its gas and electric properties serving Norwich outside the City limit solely for tax reason....

1. The City shall agree that in the event it or the Town of Norwich, or any political subdivision or taxing authority within the City, is entitled to collect a tax on account of the leased property or the Company's possessory interest in or use of the leased property, the amount of any such tax collected in any year during the term of the lease, or any renewal thereof, shall be deducted from the rental payable during such time of the lease.

The City Council and the Department of Public Utilities reacted by hiring an outside consultant to evaluate the proposal to ascertain the long term ramifications to the City and the customers of the DPU. The following report lists the pros and cons of the proposal.

City of Norwich Report on Electric and Gas Operations

The purpose of this report is to recommend to the City Council which of the following courses of action will be beneficial to the City and the

residents of the City and Town Consolidated Districts, collectively, with respect to the Electric and Gas Operations:

- 1) To accept the lease-purchase offer of Connecticut Light and Power Company.
- 2) To continue as at present.
- 3) To discontinue steam-electric generation by the City Power Plant,
Replacing its production by increased purchases from Connecticut Light and Power Company.

The factors involved are complex and technical, some being tangible and others intangible. The report covers the pertinent points in detail and is necessarily long and not easy reading. These highlights will therefore give the gist of the report as briefly as possible.

Ebasco recommends that the lease proposal of The Connecticut Light and Power Company dated June 19, 1958, as revised July 1, 1958, be accepted. Results of detailed analysis presented in the complete report and principal factors bearing on this conclusion are summarized below:

- 1) We estimate the present fair sale price of the City's Electric and Gas properties to be \$6,000,000. Under the lease, the present value of the payments aggregating \$10,050,000 to be received over the 20-year lease period is \$7,900,000 and provision is also included whereby the City can sell the then remaining property for at least an additional \$2,000,000. We also believe that the lease offer is completely fair to the City, its residents and those of the Town Consolidated District.
- 2) We believe that the development which would most benefit the entire Norwich community would be the establishment for a few diversified small to medium sized new industries in the community. We believe that such a development is more likely to occur through the cooperative efforts of the City and CL&P than by the efforts of the City alone.
- 3) ... Over-all, for all classes of services both electric and gas, the CL&P rates are estimated to yield revenue about 4% above present Norwich rates.
- 4) We also believe that the CL&P offer is fair to all present employees of the Department, that none will suffer, and that many will have a better opportunity for advancement with CL&P than they would have with the Department.
- 5) The basic advantages of municipal utility operation are (1) the avoidance of taxes which a privately owned utility must pay, and (2) the ability to obtain financing at a lower rate than privately owned utilities can secure. Taxes paid by privately owned utilities are in general in the order of 25% of gross revenues. Privately owned utilities earn in the order of 6% on their investment whereas the Department now pays the City 5% on its equity. These factors are important and worthy of serious consideration. The factor that enables privately owned utilities to offer rates competitive with those of some municipally owned utilities is size. Large privately owned utilities such as CL&P can install the most modern large generating units which are much more efficient in use of fuel and are operated by crews of the same size required for much smaller units. For

example, the City plant operated under present conditions requires approximately 25,000 Btu of fuel per kilowatt-hour which large modern units produce at less than 10,000 Btu/kwh. By “large units” is meant those about 20 times the size of the largest City unit; hence it is evident that the City cannot justify any such unit for the load and rate of growth which it now has.

- 6) The physical property of the Department is a very important factor. The Department has been well managed and the physical property is well maintained. New construction and design is excellent, but there is not a great deal of it. It is evident that money which has been spent for additions to the system has been spent where it would produce the most cash benefits and give lowest operating cost. The deficiencies of the property lie rather in obsolescence than in abnormal physical deterioration. The large system has considerable advantage over an operation of the size of Norwich in this regard, in that some things which are obsolete in one place may be reused in another where conditions are most suitable for their application.
- 7) There is no merit to considering shutting down the steam plant now and replacing its production with purchased power as such action would increase total costs of the Department by about \$31,000 for 1959. However, this differential would decline as time passes and within a few years, should Department operations continue, shutdown of the Plant would probably be desirable.
- 8) ...We believe that if the Department continues to operate it will operate on the same basis it has in the past and will not radically rebuild the electric and gas distribution systems as CL&P has offered to do, especially with regard to the electric system. We feel that the difference in size between the Norwich system and CL&P makes it proper for the City to NOT radically rebuild in the near future and also proper for CL&P to do so. That is, our forecasts of continued operation by the Department result in maximum earnings within the limits of reasonable satisfactory service over the coming several years without issuance of additional bonds to obtain money for improvements. Nevertheless, the forecasts show that over the next several years the City would obtain more money by accepting the CL&P offer than it would by continuing operations. Also, while the long-range future is never certain, there is no present indication that the results will be appreciably different. In this respect the offer is especially attractive in that it gives the City the right to return to municipal operation should conditions which are not now foreseen make that desirable.
The estimated cash benefits for 10 years from acceptance of CL&P’s offer as applied to (1) the City government, and (2) the community as a whole comprising the City government and electric and gas customers, are as follows:

	<u>Municipal</u> <u>Annual</u>	<u>Government</u> <u>Cumulative</u>	<u>Community as a Whole</u> <u>Annual</u>	<u>Cumulative</u>
1. On Acceptance of offer	\$800,000		800,000	

2. First Year	514,000	\$ 1,314,000	417,000	\$ 1,217,000
3. Second Year	493,000	1,807,000	391,000	1,608,000
4. Third Year	462,000	2,269,000	356,000	1,964,000
5. Fourth Year	436,000	2,705,000	326,000	2,290,000
6. Fifth Year	404,000	3,109,000	290,000	2,580,000
7. Sixth Year	377,000	3,486,000	259,000	2,839,000
8. Seventh Year	350,000	3,836,000	227,000	3,066,000
9. Eighth Year	324,000	4,160,000	197,000	3,263,000
10. Ninth Year	297,000	4,457,000	166,000	3,429,000
11. Tenth Year	275,000	4,732,000	139,000	3,568,000

The \$800,000 on Line 1 is composed of cash and investments of the Department to be turned over to the City on transfer of operations to CL&P, plus \$250,000 to be paid by CL&P for materials and supplies.

Annual increased cash to the Municipal Government consists of (1) payment by CL&P under the lease, PLUS (2) payment of taxes by CL&P MINUS (payments by Municipal Government to CL&P for utility services, MINUS (4) payments to the City by Department on City equity, PLUS (5) payments by the City to Department for utility services.

Annual increased cash to the community as a whole as the increased cash to the Municipal Government MINUS the amount by which CL&P rates are higher than those of the Department for all except municipal services.

CL&P offers to pay \$550,000, at the rate of \$55,000 a year, more than is indicated by the above cash figures, which is to care for the present deficiency in the Department's pension fund and so is not cash available for the City's use. This payment is, however, a real asset to CL&P's offer and should be considered as such in evaluating the desirability of the offer.

9) CL&P's offer provides that, in essence, CL&P will pay at least \$350,000 to the municipality in property taxes for 25 years after termination of the lease period and sale of then remaining property to CL&P. This provision and the right of resumption of municipal operation adequately protects the municipality for the long-range future.

II – CONCLUSIONS AND RECOMMENDATIONS

1) Alternative (3), shutdown of the steam plant with substitution of purchased power for its production, would in 1957 have cost the Department approximately

\$ 40,000 more than was actually spent. As time passes and the relative generation by the steam plant decreases, this differential will be reduced and it will eventually be desirable to cease production by the steam plant. However, for the next few years this alternative is not economically desirable and is not recommended. Detailed figures and discussion are shown in Section III of this report.

2) As between Alternative (1) lease to CL&P, and Alternative (2) continued municipal operation of electric and gas utilities, we recommend the lease for the following reasons:

- a) We estimate the present fair sale price of these utility properties to be \$6,000,000. Under the lease offer, the present value of the payments to be received over the 20-year period is \$7,900,000 and the City could sell the remaining property at the end of 20 years for an additional \$2,000,000.
- b) We believe that the lease is more likely, with cooperation between the City and CL&P, to attract new industries to Norwich than the City alone could accomplish. The advantages to the community of increased industrial activity are self-evident.
- c) We believe that the features of the lease offer by CL&P are fair and equitable to the City, its residents, and present employees of the gas and electric division of the Department of Public Utilities...
- d) Factors in which municipal operation of utilities has advantage over private

Ownership are:

- i) Federal income tax is avoided.
- ii) The cost of money is lower to municipalities.

The majority offsetting factor in the case of Norwich is size, which makes impractical the of modern generating units by the City comparable to those of CL&P, as well as of large modern mechanized accounting systems, and other special equipment....

The total Norwich load is only 17,000 KW; the largest unit in the steam plant has a nameplate rating of 7,500 KW and actual capability of 8,400 KW. A “large” modern unit is at least 100,000 KW and provision must be made to carry the load when any unit is out of service. Obviously Norwich load will not be enough to warrant a “large” unit within the foreseeable future....

- e) ...Over-all, for all classes of service, both gas and electric, the present CL&P

rates show an estimated revenue of about 4% above those of Norwich...

They amount cumulatively to about \$4.7 million benefit to the municipal Government by accepting CL&P’s offer and over \$3.5 million benefit to the community as a whole, both figures excluding the \$550,000 which CL&P offers to pay to cover present deficiency in Department’s pension fund....

As CL&P offers large benefits to the City in the early years and gives the City the option to return to municipal operation later if it so desires, it is our opinion that the municipality and its citizens by accepting the offer are certain of a substantial short-term gain with nothing to lose in the future should radical development occur.

1957 Physical System – Electric

A. The Steam Station

The station consists of the following units:

Unit No.	Nameplate Rating	Capability KW	Year Installed	Age January, 1959
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1	750	800	1911	48
2	2000	2250	1912	47
3	4000	4450	1918	40
4	7500	8400	1939	20

The station is well maintained and the units are in good condition, but the three small, low-pressure, two-phase units are quite old and are obsolete by present standards.

The site is undesirable for expansion because it is too small and is not desirable located for coal burning. As a result, the winter fuel is oil, which costs considerably more than coal. In the summer, when interruptible natural gas is available, the present site is satisfactory but the winter deficiencies are controlling and the site is unsuitable for expansion....For example, eventually some part will become worn or damaged to the extent that a new part would have to be made from a new casting, the cost of which would exceed what could reasonably be spent. This is similar to the reason how old automobiles cannot be economically operated indefinitely- repair parts are no longer available from manufacturers' stock and the cost of building the parts from scratch is excessive. The utility industry has found that it is generally impractical to operate units for more than 40 years.

It will therefore be necessary to retire the small units in the not distant future. If the Department continues to operate the Plant, each such retirement would necessitate increasing the purchase of reserve from CL&P.... To purchase additional reserve from CL&P as these retirements become desirable requires strengthening the ties between the city system and CL&P, which in turn will increase the duty on circuit breakers at the Plant, and eventually modernization and replacement of circuit breakers at the Plant will be required.

C – The Electric Distribution System

The electric distribution system represents almost 47% of total electric investment. It is well maintained and physically in good system considering its age. However, much of the distribution system is quite old and obsolete. By “obsolete” is meant that while the item works satisfactorily it would not be economic to apply it new to the same use nor to reinstall it elsewhere under different conditions. For example, much of the distribution in downtown Norwich is obsolete in that such a system would not be built today, although some of the components could be reused to advantage elsewhere on the Norwich system, and a considerable part could be so reused on a large system, such as that of CL&P...

The work that has been done by the Department in recent years on its distribution system is good, but not a great deal of reconstruction work has been carried out. What work has been done has been selected to return the most benefit per dollar of cost... However, considering the slow rate of growth of Norwich load and the conditions prevailing in Norwich in regard to availability of money for construction, it is our opinion that the Department has made good use of its available resources....Acceptance of the CL&P offer would result in a better appearance of the downtown area, but we do not feel that it would be practicable for the Department to do the same work that CL&P has offered to do...

VI – Physical System – Gas

A- Gas Production and Storage

Present gas distribution is natural gas purchased from Algonquin Gas Transmission Co. The City has an oil-gas producing plant as reserve, which is, however, only run for test purposes and is not economic for “peak-shaving.” As the maximum daily input from Algonquin Gas under the present contract is approached it will be economically desirable to provide for “peak-shaving,” that is, on cold days of maximum gas usage to provide another source of gas to hold the purchase demand to an optimum figure. The most practical means is to store liquefied gas under pressure (LPG) which evaporates into gas on release of pressure and which can be used for both “peak-shaving” and reserve for possible outage in the purchased gas supply.

We forecast that this change will become economically desirable in 1961 and estimate the cost of LPG storage at \$200,000. The oil-gas plant would be retired. Such work would put the gas supply system in good condition for 10 or more years under forecast growth load.

Since natural gas came into use in 1954 the number of gas customers has not changed appreciably although gas sales and revenue have risen rapidly. We believe that for the future the number of gas customers will increase at a very low rate and that increased use and revenue will largely result from increased space heating by present customers. The space-heating rate is low in proportion to the general-purpose rate and revenue is not expected to increase in proportion to expense because of growth being on the lower rate....

A referendum was held on the proposed lease and was substantially defeated by a vote of 2,919 to 1,904. Two proponents of this defeat were Philip Shannon and Commissioner H. Downer Johnson knowing that the cost of power for street lighting and public buildings would be a tax burden on the citizens of Norwich. It is through the forward thinking citizens of Norwich that the proposal was defeated thereby lessening property tax increases.

Changes Made by the Department

The Department used the fifth paragraph of the proposed bid as a template in the upgrading of the Department. The electric system would provide underground network system for the City business center, the conversion of the remaining 2400 volt 2 phase systems to 4800 volt 3 phase systems; the rearrangement and necessary replacement of 4800 3 phase circuits for better voltage and service conditions; the modernization of the street lighting system, and

the replacement of obsolete distribution equipment and material in service. The gas system would provide installation of propane storage tanks to improve service conditions and reliability of service. This did not occur over night, but through gradual improvement the Department addressed these areas so as to provide better product for its customers. CL&P also indicated that Norwich was too small to offer incentives to new industries and that it could do a far better campaign in this matter.

The Differences between the Offer and the Reality

The following chart was compiled to point out the monies offered by CL&P and the monies received by the City from the Department. This does not include the street lighting, power for public buildings or gas used by the City. As Mayor Thayer first stated in 1900, the City would receive free street lighting from The Norwich Public Utilities. This was a great burden in 1900 as it would be in 1958 if it had be sold.

Proposed Annual Payments by CL&P/Comparison

20 year payments	Amount		Amount received by city from the NDPU		
		2008 Value		2008 Value	
1959	\$815,000	5,737,428.05	1959	305,875	2,170,521.83
1960	785,000	5,439,207.07	1960	317,298	2,233,710.98
1961	755,000	5,179,543.84	1961	338,750	2,347,173.75
1962	725,000	4,919,618.35	1962	335,282	2,437,349.26
1963	695,000	4,660,126.42	1963	418,278	2,838,300.86
1964	665,000	4,401,747.17	1964	466,997	3,131,316.63
1965	635,000	4,132,912.60	1965	492,636	3,260,840.78
1966	605,000	3,826,683.07	1966	515,516	3,355,248.14
1967	575,000	3,534,431.67	1967	537,214	3,397,930.12
1968	545,000	3,214,996.68	1968	566,893	3,484,599.26
1969	460,000	2,574,549.51	1969	609,936	3,598,053.21
1970	430,000	2,272,562.90	1970	650,665	3,641,672.30
1971	400,000	2,026,857.14	1971	686,556	3,628,469.05
1972	370,000	1,814,949.52	1972	700,942	3,551,773.24
1973	340,000	1,570,425.09	1973	775,541	3,804,237.20
1974	310,000	1,289,962.32	1974	894,528	4,131,733
1975	280,000	1,067,944.32	1975	1,181,000	4,504,436.59
1976	250,000	901,249.26	1976	1,125,000	4,055,621.67
1977	220,000	744,694.22	1977	1,075,000	4,100,143.38
1978	190,000	597,717.41	1978	971,000	3,500,452.12
Total	\$10,050,000	59,907,606.61	Total	12,964,907	67,173,583.37

The value to the City goes even farther than the amounts imply due to the loss of possible wages to the City from the reduction in employees wages. Their purchasing of local goods and services would have been reduced.

An article written in 1965 illustrates the wise decision the voters of Norwich made when they turned down the proposed buy-out by CL&P.

Norwich Bulletin August 13, 1965

‘City Better Off Owning Utilities, Magazine States’

Is the City of Norwich better off since voting to retain control of the Public Utilities department in a referendum six years ago this month?

A recent article in Public Power, a magazine published monthly by the American Public Power association, says, yes.

The story by Mark R. Anson, contributing editor of the publication, points out that sales of both electricity and gas have increased by 50 per cent since the time when the move to sell out to the Connecticut Light and Power Co. was voted down.

Electric gross revenues have increased by a third to over \$2.5 million and the number of electric customers has increased by 10 per cent.

At the same time, Anson states that the cash and investment account of the combined utilities has gone from \$1 million to more than \$1.5 million.

It was pointed out that in the past five years, more than \$3.5 million has been spent for capital improvements and more than \$1,941,000 has been transferred to the city in cash and service.

According to the article, direct transfer of funds from the electric department alone increased from \$158,500 to \$205,347 in 1964-65.

The only decrease, since the referendum, has been a reduction in net profits from \$178,100 to \$163,351. This, Anson said, has resulted partly from the city's free street lighting program but mostly from rate reduction in 1963 and 1964 and from additional gross revenue taxes paid to the state.

The article points out that in the six year period, the city would have received \$4,440,000 from CL&P under the terms of the lease but it would have paid out \$942,000 for lighting, would not have \$1,941,000 in transfers and free services to the city, a total of \$4,425,000.

Although this is difference of some \$15,000, the article points out that the declining lease basis offered by the company would make the payments to the city less and less as time went on until after 12 years, the company's payments to the city would be no more than \$2,370,000, far less than the city can expect to receive under continued municipal operation.

The principal argument proposed in favor of the sale, the article notes, is the ability of the CL&P to attract new industry.

In answer to this, the magazine quotes Public Utilities General manager Philip L. White who points out that two industries have been established in Norwich within the past three or four years which together use \$42,000 worth of electricity in a year. This summer, White said, another industry plans to double its capacity.

Industrial sales White observes have increased from 21,779,000 kWh in 1959 to 29,080,000 kWh in 1964.

The article quotes from a number of Norwich residents, businessmen, labor leaders, and professional men all of whom say that they are glad that the utilities company was not sold.

All in all the conclusion drawn by Editor Anson is that since 1959 the Norwich municipal utilities have justified the hopes of their supporters and won over many of the foes in the heated sell-out campaign.

Changes Since CL&P Proposed Buyout

As a result of the proposed buyout, changes were instituted for increased efficiency of the plant, customer service, and distribution.

- 1960** Tenth Street Substation is constructed
South Golden Street propane plant is built
- 1971** Propane Plant built on Salem Turnpike to provide greater peak-shaving flexibility

annual charges that averages \$18,000.00 a year that it was formerly necessary to pay to the Water Power Company for water in excess of that for which we had water rights. This will prove to be an excellent investment in the years to come.”

With the Tenth Street Hydro ready to come on line and produce energy using a renewable source, the idea was once again revisited. . The 1960 bill from the Norwich Water Power Company was listed at \$18,000. The purchase price was set at \$80,000 or five years of rental of the water from the Norwich Water Power Company. A WICH by-line read by Cassidy Driscoll, a fixture at the radio station for many years, tells of this sale.

Norwich’s Public Utilities officials have received some compliments from the city council and from the public for their decision to buy the Norwich Water Company....A move which will mean a savings over the years in the cost of producing electricity from water power.

The transaction generally has been hailed as a progressive step... and it is.

But actually it’s not an unusual one. The several months since the administration took over the department have seen the establishment and implementation of an aggressive policy designed to realize the full potential of the utilities as a power supplier and a revenue producer.

When Philip White, the General Manager, was named to head the department...(That appointment came shortly after the referendum decision to reject the C. L. & P. lease-sale offer)...one of his first comments was that Norwich had an asset which it would be foolish to dispose of.

Since he was appointed by a commission whose members had recommended acceptance of the lease offer, there was some early fear that the commission and the manager might end up working at cross purpose. But it certainly hasn’t worked out that way. Under White the department has completed several projects that were in the works when he took over and has begun several others...the chief of which was the water power company purchase approved this week by the council.

Projects which have been completed include the Greeneville Sub-Station designed to improve service to customers.... Another project undertaken and completed was the installation of propane gas units for emergency service for customers and to cut department demand charges.

The downtown street lighting program begun under the previous administration is being continued....a policy of lower rates for city-owned buildings has been instituted...and the department is carrying out a continuing program of general service improvements.

These innovations, installations, and improvements have cost money...but apparently it has been well spent since it has taken an already financially healthy operation and made it even better, both for its owners and its customers.

Much of the credit for this must go to White who has not hesitated to recommend improvements and new ideas, even though they do cost money. In less than a year he has created an operation that is better prepared to meet Norwich's future demands and has, we think, done a great deal to change the original thinking of some of us who had advocated getting rid of the department at the time of the referendum.

In a Norwich Bulletin article on March 21, 1961, three items were discussed; price-fixing by large suppliers of electrical equipment, a proposed Capehart housing development for Norwich, and the NDPU's current investigation of purchasing the Ponemah Mills utilities system, which supplies over 400 homes with water and sewer, and 1,300 customers with electricity. If purchased, the city would get over eight miles of water mains, the Ponemah Dam, five water wheel generators, the electric substation at the mill, and three reservoirs. As we now know, the sewer system and the water service were purchased with the reservoirs becoming property of the City of Norwich. Connecticut Light and Power purchased the dam and hydro generating station.

Many different problems arose as time went by in the utility industry such as major winter snow storms, hurricanes, and ice storms. What occurred on November 9, 1965 was totally out of the ordinary, a massive power failure in the Northeast due to a problem at the Robert Moses Power Project at Niagara Fall, New York. With a lack of control of the problem, a domino effect hit the region. This was Norwich's response.

Norwich Bulletin November 10, 1965

Power Failure Hits Norwich at Worst Time Peak Moment for System

Norwich's vital link with electrical power was severed for varying amounts of time Tuesday night as a massive power failure swept across northeastern United States.

There were no reported incidents resulting from the failure as the city's most-needed operations, the police and fire departments, Backus Hospital and telephone company, all switched to emergency power either within seconds after the blackout.

Public utilities general manager Philip L. White reported meters at the generating plant showed that all power went off at 5:32 p. m., although some sections of the city were hit before that.

According to reports, the failure was cascading in nature sweeping across Norwich like a cloud.

Power was restored in a similar manner. The utilities department was back in “normal operation” at 7:35 p. m., White said.

“Worst Time”

The power loss “couldn’t have happened at a worst time.” White said, adding that it was a peak moment for the system.

When the failure hit, the local plant was generating a total of 22,810 kilowatts. Of this amount White said 14,100 kilowatts came from steam generators; 910 by hydro–electric power and 7,800 kilowatts from Connecticut Light and Power Company service to the city.

“The failure happened so fast,” the general manager commented, “we just couldn’t carry all the load. We were shut down flat.

When White arrived at the generating plant just the emergency lights were burning. The tedious task of restoring power began immediately.

At 5:45 p. m., using a small steam generator, the department began pumping electrical juice back into the system. The output was 750 kilowatts.

Two minutes later the output was 7,500 kilowatts, and it was at about this time that the lights began to wink on in the heart of Norwich. At 5:50 p. m. utilities workers “began picking up what circuits they could,” White said.

The CP&P service was restored at 6:24 p. m. and the electrical pulse of the city beat stronger. Finally, at 7:35 p. m., the local operation was back to normal.

White said it was difficult to say which sections were without power the longest and which areas received power first; however, reports reached The Bulletin office indicated sections of the old town area were without power longest.

“This is by far the most serious power failure I’ve ever been in,” said White. The general manager called in extra men, particularly for the plant, and praised local customers for their cooperation in not using unnecessary appliances during the blackout.

The Gas Turbine

The future outlook for the DPU began to change due to new requirements from the Federal Government’s Clean Air Act. The Norwich Bulletin presented this article.

November 6, 1970 Angry Residents Insist PUD Halt Soot Fallout

An angry group of Greeneville residents argued with the Public Utilities Department (PUD) for two and one half hours before a City Council public meeting Thursday night. And when it was over, PUD agreed to consider closing its No. Main Street generating plant next summer if antipollution measures don't stop the soot from falling on Greeneville.

With the need for reliable power the DPU looked at the possibility of purchasing a Gas Combustion Turbine to replace or supplement its power supplies. Since the hydro's produced about 5% of the City's needs, a larger source of power was needed. After much consideration and research, the Department settled on a Gas Turbine Power Plant.

The January 27, 1971 Norwich Bulletin report provides insight into this process.

Jan. 27, 1971 New Jersey Firm Low Bidder for Gas Turbine Power Plant

Curtiss-Wright Corp., Wood Ridge, N. J. with a quotation of \$1,334,000 emerged Tuesday as the low bidder to construct, erect, and equip a combustion gas turbine power plant for the Department of Public Utilities. The turbine would replace all existing low pressure equipment at the North Main Street PUD generating station, recently cited by Greeneville residents as an air pollution source, according to Robert E. Grimshaw, Utilities general manager.

The New Jersey firm proposes to have certified drawings for approval by engineers within 60 days of the contract award; initial shipment of equipment and materials within 13 months; ready for initial operation within 14.5 months; with completion of testing and ready for commercial operation within 15 months of contract award. The base load rating of the device is 16,750 kilowatts (KW).

Norwich businessmen were informed of this proposed purchase. The August 20th, 1971 Bulletin gives evidence to this fact.

“Jaycees Back Bond Proposal

Members of the Norwich Jaycees voted to endorse a Public Utilities \$1.7 million bond referendum to be held September 9.

The vote came after the chapter heard Robert E. Grimshaw, general manager of the Public Utilities Department, talk in favor of purchasing a combustion gas turbine power plant, which will replace three old generating machines installed in 1911, 1912, and 1918. It will also replace four boilers installed in 1916 and 1918.

“This unit,” he added will be 100% smokeless and will have maximum sound silence factors in it.”

“An engineering firm ...came in and we tried to find a unit that most closely met the ideal specifications.” The unit turned out to be a Curtiss-Wright piece with a Rolls Royce engine...When questioned as to why the department did not purchase a machine that was American, Grimshaw replied that there was a \$400,000 difference between the Curtiss-Wright and a United Aircraft model.

This mode of power production was hailed as a pollution free instrument by Superintendent Robert Grimshaw due to its lack of soot. Mr. Grimshaw reacted at a later point about the looming energy crisis that faced the country in 1972.

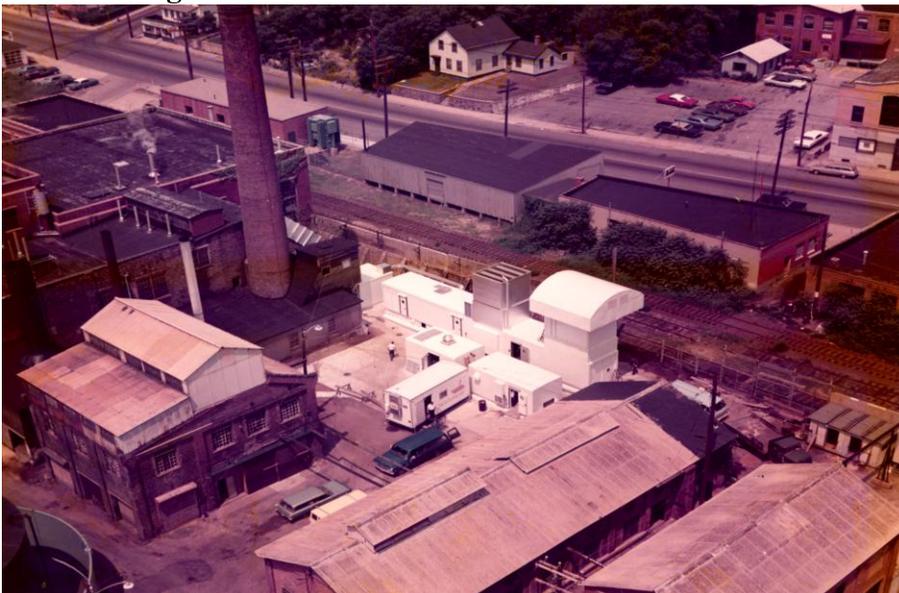
October 5, 1972 Grimshaw Chides Washington for Energy Crisis Reaction

Federal Government leadership that is “good, sound, and businesslike” is needed to alleviate a very real “energy crisis” now existing in the United States, asserted Public Utilities Department General Manager Robert E. Grimshaw.

In a noonday address Wednesday to the Norwich Rotary Club, Grimshaw said the average person “is unaware of the end result of this crisis.”

“Energy is work. Energy is life,” Grimshaw declared, “and we take it for granted.” He said that while the crisis seemingly appeared to come on suddenly, it was a gradual process stemming from a national “energy binge.” Now, he said, “we seem to be getting a bit of a hangover.”

...”For years, we did nothing...then we over-react. I believe we are over-reacting in this case.” He continued. He said the question we must all ask ourselves is,” what is the maximum we can pollute and still maintain the ecological balance?”



**Source: DPU Archives
This view shows the installation of the Curtiss-Wright Gas Combustion Turbine. The old steam plant is located on the upper left of the picture. Most of the surrounding buildings pictured here at the DPU North Main Street plant have been torn down.**

Presently the Utility has six main substations: Bean Hill Substation, Dudley Street Substation, 10th Street Substation, North Main Street Substation, Salem Substation, and Taftville Substation. Its three hydro plants are located at: Occum Hydro- Bridge Street, 2nd St. Hydro- 393 North Main Street, and 10th Street Hydro- 7 Eighth Street.

The Gas Division

Since natural gas began coming into the Norwich mains, the gas has been provided by Algonquin Gas Transmission, now part of the Spectra Energy Company. Algonquin's pipelines transport 1.9 billion cubic feet of gas per day through their 1,100 miles of pipelines. Algonquin is connected to Texas Eastern Transmission and Maritimes & Northeast. Norwich has 18 gas stations with five gate stations where gas is taken into the Norwich transmission lines to heat homes and businesses. All gas gate stations, located in various parts of the city, are mechanical, electricity only supplies lights and flow signals showing the amount being used within their district. Gas is purchased from Spectra Energy for an allotted amount at a given price. If more gas is needed due to a cold snap for instance, it is added into the system from the LNG station found in the Industrial Park. This allows Norwich to serve its customers with uninterrupted gas. Norwich had used a propane system to help offset the extra need for gas, but this was difficult due to the higher BTU factor propane has.

The DPU is in the process of completing public school hookups to the system so that they can all burn the clean natural gas rather than oil. Kelly Middle School will be added to the system this summer (2009), leaving only Moriarty School, off of Lawler Lane, not on the supply system until a proposed golf club and condominium complex is built off of Lawler Lane.

The City has a Compressed Natural Gas (CNG) station located at 16 South Golden Street for the use of the NPU fleet of vehicles. The Norwich Public School System also uses this station for the CNG buses it uses. The gas division has been very busy installing new high efficient on-demand gas water heaters which are cost effective. Conversion to gas boilers present a cleaner and more environmentally

alternative to oil. On-call gas service technicians assist customers in any problems that arise.

Connecticut Municipal Electric Energy Cooperative

By the 1970's, The Norwich Department of Public Utilities produced only a small portion of the electricity needed by the City of Norwich. The low head Hydro's could provide 4 to 5% of the power needed during favorable weather conditions, but most of the power was purchased from the Connecticut Light & Power Company.

In 1975, the General Assembly empowered Connecticut's public power municipal utilities to form an electric "cooperative" to deal with rising power costs and because they were under increasing pressure to be dominated by private power supply corporations such as CL&P. The Norwich Department of Public Utilities, alarmed at the prospect of ever-increasing costs of power, formed with two other municipal power companies the Connecticut Municipal Electric Energy Cooperative. The idea was to take both the strengths and weaknesses of the municipally-owned utilities and forge, through collective unity, a self-directed power supply agency with new muscle and bargaining power. This energy cooperative would benefit local consumers and utilities alike by getting greater control over where, how, and at what price they got municipal electric power. The three charter members were Groton, Jewett City, and Norwich. As time went on, Wallingford, South Norwalk, and the Third Taxing District of the City of Norwalk joined. On May 5, 1995, Groton Public Utilities bought Bozrah Public Utility. Since 1985, CMEEC has served as the Designated Bargaining Agency for the State of Connecticut with respect to the state's allocation of power from hydroelectric units owned by the New York Power Authority on the Niagara River at the Robert Moses Power Generating Station and St. Lawrence River Canadian hydro-generating units, as well as obtaining price concessions from Northeast Utilities. The arrangement was favorable for Norwich and the other municipal utilities because the hydro power purchased from outside sources is generally less expensive than power manufactured by Northeast Utilities' coal, gas, hydro, or nuclear plants. The

Connecticut Municipal Electric Energy Cooperative is located in the Norwich Industrial Park.

In 1980, CMEEC became a joint owner in the Millstone No. 3 nuclear unit. The CMEEC municipality utilities needed a baseload generating resource to help meet community needs.

As time went on, other municipal utilities came on board to help their customers with lower priced power.

Francis W. Brown, Chairman of the Board of CMEEC in 1981 was quoted as saying:

“Thus far, we have devised a firm foundation to keep costs as low as possible. We have begun to accumulate modest savings that can provide a safety valve to keep power cost under greater control than previously possible as ‘captive’ private utility customers.”

An area of need was developed due to the rising cost of energy to the customers of the Norwich Public Utilities. The position of the utility is to sell energy, yet Norwich has taken a different avenue in its conservation of power. The Utilities’ energy management concept has allowed many power users to lower their bills by installing more efficient equipment, i. e. high efficiency lighting and heating, energy star appliances, and on-demand gas water heaters. The efficiency engineers at the DPU act as Customer Service Representatives and recommend ways to cut high costs of power, but they do not recommend tradesmen to do the projects. The DPU works with other CMEEC members to promote efficiency. The utility, when confronted with the 5 or 6 days of peak demand yearly, and aging infrastructure of all of Connecticut’s power supplies, relies on all customers to assist in reducing the amount of energy used, therefore reducing the possibility of rolling blackouts or brown-outs.

The History Of The Water Department

At the confluence of three rivers, the Thames, Yantic, and the Shetucket, Norwich's history has proven to be one of Yankee practicality. Entrepreneurs came to Norwich to harness the cheap water power of the rivers and falls. Waterwheels and power canals enabled businessmen to profit. This propelled growth produced more millionaires per capita than any place in the nation with such names as Slater, Green, and Osgood. Coal brought up the Thames fired the industries and heated homes and businesses. Later, oil from barges plied the Thames, assisting in the manufacturing process. Private gas and electric companies began a change in the industrial and home environment. The concept of newer and better propelled Norwich.

Norwich's past was enhanced by its immigrants: Poles, Irish, French, Italians, Cape Viridians, Germans and others. As one ethnic group gained economic ground, others arrived and began their new life. The items each group encountered were the most recent innovations found in the infrastructure of our city: clean water, sewers, gas, and electricity.

Norwich's development into the primary industrial center of eastern Connecticut was based upon geography. Norwich became an important trading center due to its being at the head of the Thames River, a fully navigable river, and just wide enough to prohibit bridge construction at its mouth in Groton. Its ocean access allowed Norwich to handle ships from coastal shipping and foreign lands.

Yet the Thames was not utilized for waterpower due to its low flow. The Yantic was the first of the two local rivers to be harnessed due to fast flow and high head- the length of the drop of the water over Yantic Falls.

As the city grew in the mid-1800s, Norwich continued to prosper as a mercantile center and port for trading. Townspeople realized the importance of

available clean and safe drinking water for human consumption. Fire protection also made it a necessary commodity. With most people depending on wells, scattered aqueducts, cisterns filled by roof runoffs, and springs, Norwich's concerned leaders felt a pressing need for a municipal water supply.

Experience proved to the city government that as each summer passed, more evidence presented itself that even the combined water available was insufficient. Meetings held from time to time until the spring of 1866. A petition was presented to the mayor requesting him to call a city meeting to take action on the water question. The mayor and the Common Council petitioned the Connecticut State Legislature for permission to issue bonds in the amount of \$100,000 to constitute a water fund for the purpose of providing the city with water. This measure was passed on September 13, 1867, and the Board of Water Commissioners recommended that one of the tributaries of the Yantic River, having its source in a valley between Scotland Road and Canterbury Turnpike, have its water impounded, one mile east of the Norwichtown Green. The former Collins Mill had been located there years before, and at the lower portion of Fairview Farm and adjoining properties, a main conduit could distribute water throughout the city at an estimated cost of \$185,000 (today's value).

On June 17, 1867, the Board of Water Commissioners instructed their engineer to undertake a survey of the watershed in Norwichtown above Dr. Gulliver's home and to stake out a gathering reservoir to measure the land it would be necessary and desirable to purchase. Also, lengths of pipe, diameter for supplying the most populated part of the city and estimate the number of fire hydrants, pet cocks, and air valves required for proper installation. The Water Commissioners also voted to authorize hiring the necessary men, teams, tools, and other materials to

execute the works of the embankment of the reservoir according to the specifications required.

As the project began, the bed of the reservoir was thoroughly cleaned of brush, stumps, soil, roots, and vegetable matter. A canal was built to divert waters of adjoining streams into the reservoir. Because the city wanted the project to be completed by the autumn of 1868, the commissioners engaged the services of 60 to 80 teams of horses and 300 to 400 men that spring. Accommodations for the crew and teams were provided on the grounds under the control of the building superintendent. Boarding houses were secured as well as stables for the teams of horses and oxen. A blacksmith shop was also built to service the animals and the repair of iron work as needed.

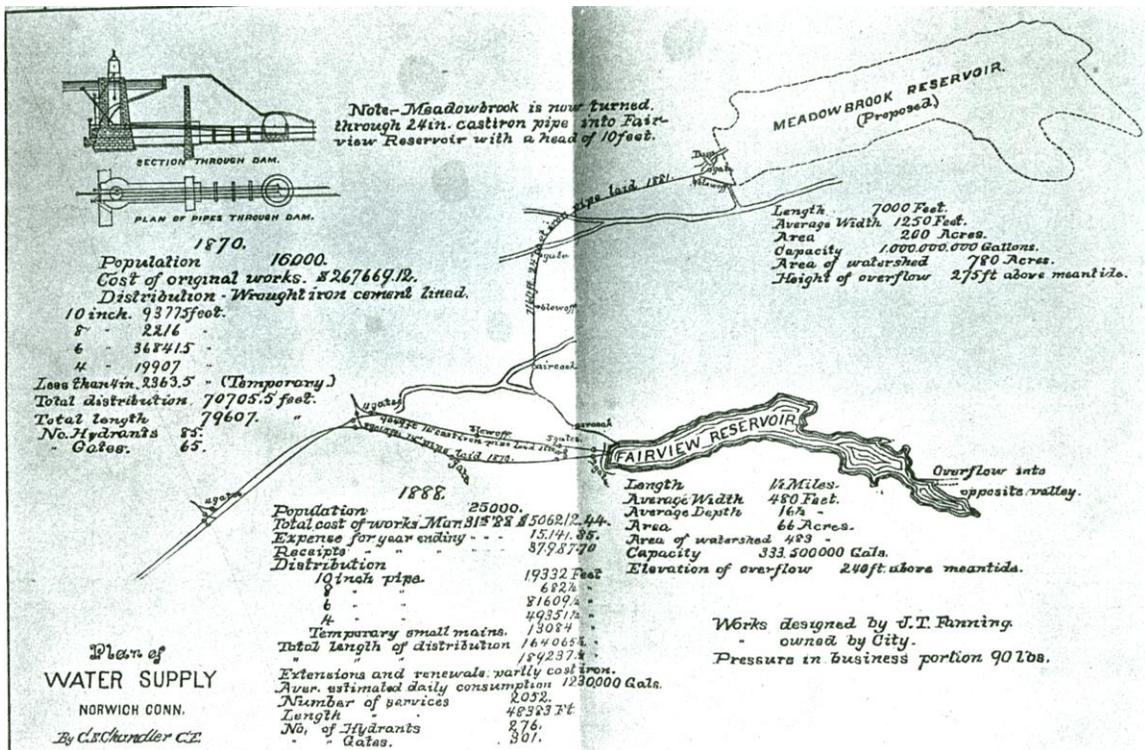
The clearing of stumps proved to be a long process with over 20,000 stumps, measuring between four and thirty-six inches in diameters, having to be removed by a stumps extractor using animal power, geared windlass, and four-wheeled carriages. The stumps were burned on the grounds and the fly ash hauled away. In all, 300,000 cartloads were excavated and removed by teams.

One instance of labor insubordination occurred during the construction in an inefficient attempt to strike for an increase of wage in the first part of May 1868. It was believed that the move was instigated by influences from outside the workforce. This attempt to strike was so unpopular with the laborers that they kept the original terms of their employment.

On October 23, 1868, the gate was closed for filling of the reservoir. Water began to overflow on January 16, 1870. The engineer had estimated that it would take 454 days to complete the fill, but it took actually 450 days. Testing of the water mains began following the fill. All pipes laid in the spring of 1868 with cement

linings were found to be in good condition and able to bear the pressure and provide water. The Water Commissioners accepted these lines on October 4, 1869.

The first report of the Board of Water Commissioners presented to the Court of Common Council in 1870 talks of the success of the experiment of gathering an adequate supply of wholesome soft water from a small streamlet with a gathering ground of three-quarters of a square mile. Other ponds were considered but they were in Bozrah and Salem, a long distance for gravity feed streams. The Water Commissioners also suggested that a small one-half acre pond be built on the top of Jail Hill to hold water ten feet deep for increase of water pressure at the cost of \$10,000 to \$12,000. A map marked "Plan of the City Aqueduct Reservoir" showed the proposed location, form, and dimensions of the storing and distributing reservoir. As we now know, this is called Fairview Reservoir.



Due to some shallow placement of water mains, difficulties arose. That year, a main on Boswell Avenue was struck by lightning and the pipe was split. Severe

winter in 1874 and 1875 left their mark on the shallow street mains that froze solid. But in time, the mains were set deeper and improvements allowed Norwich to enjoy a viable and reliable water supply.

As time went on, the reservoir's water became a subject of concern due to the taste and quality of the water. A report was generated for the Water Commissioners. This represented the best knowledge at that time.

**Exerts from Prof. Stillman's Report on Norwich Water
January, 1873**

Of The Waters:

"Several citizens informed me that the water had lately been offensive, both to taste and smell. This statement was also made to me by some of the officers of the company; but it was remarked that since the first of January, or thereabouts, there has been a marked improvement. Some remarked upon the odor, as well as taste, being offensive. Others used less decided language, saying that at times there was a disagreeable, rather than offensive, flavor. Others said they had perceived neither the one or the other. All seemed to agree that the water in some localities was affected unpleasantly and much less so in others... After hearing the testimony of various witnesses as to the character of the water in Norwich, on the 7th of January I made visits to several points where all agreed it had been the most offensive, ...My surprise was therefore excited to find the water in no case where I examined it, as drawn from the taps, marked by any of the bad qualities of flavor or odor which were reasonable to be expected. The color was slightly yellowish brown, and I fancied in one or two places that the flavor was a little marked by the vegetable extractive matter, which is the case of the color...But an appeal rests, after all, on the actual results of chemical and physical examination, which leaves no doubt, as you will see, that the water of your lake is of extraordinary purity, whether judged by the very minute quantity of foreign matter it contains, both absolutely, in grains per gallon, and comparatively, to other well known and highly accredited waters."



The 250th celebration post card of the founding of Norwich shows with great pride Fairview Reservoir. The circular gatehouse with its domed roof was built by the Boston Machine Company. The reservoir also had a bank-wall enclosing the reservoir finished to three feet above the level of the overflow, from the dam up about half of the length of the reservoir on each side, and remainder two feet above the water surface. This bank-wall was added, not for a driving surface around the reservoir, but for the care and preservation of the purity of the water. The most important uses of the enclosing wall, and the rip-rap at its base, were to prevent washing of the slopes when high winds dashed the water upon them, and the prevention of the growth of aquatic plants which in hot weather could cause fermentation of any vegetable substance.

In 1868, it cost a family of five or less \$5.00 per year for water to be paid quarterly. It cost extra for houses with indoor bathroom facilities. As time changed, prices kept up.

Norwich's commercial groups presented their view of Norwich in this 1890 article.

City Water Supply

No city in New England has a more abundant supply of good, wholesome water than Norwich. The reservoir, which covers sixty-six acres, being one and one-eighth miles long and an average width of 48 feet, is situated on high, elevated ground in the northerly part of the town, two and one-half miles from Franklin Square, the center of the city. At this point the level of the overflow at the dam is 234 feet, and at tide water 253 feet, thus giving it a pressure or head that makes it of invaluable value as an auxiliary to our fire department in extinguishing fires. The reservoir gets its supply from natural springs that flow into it from the surrounding hills, and a water-shed of upward of 400 acres. It has a capacity of 350,000,000 gallons, and by a small outlay can be made to hold a much larger amount should future demands require; but at present, the supply is fully adequate to the wants of a city twice the size of Norwich. The water from the reservoir is conducted as far as the Soldiers' Monument, at the head of Williams Park- a distance of one and one-half miles-in two mains, one 16-inch and one 14-inch. From this point water is distributed through smaller pipes to all parts of the city, including Greenville, Laurel Hill, Thamesville, and the Falls Village. At the present time the water is supplied to 3,277 families, 815 offices and stores, 259 livery and private stables, 318 garden hydrants and hose, 287 public fire hydrants, 20 fire cisterns, 17 schoolhouses, 22 fountains, 41 steam engines, 62 manufacturers, 230 street front sprinklers, 45 saloons, 26 markets, 25 green-houses and graperies, 9 fire-engine houses, and for a large number of other purposes.

The distribution of 287 fire hydrants throughout the streets of the city, and the pressure of a 250-foot head, makes the city almost safe against a fire of any magnitude. With such a force of water from a fountain head of such large capacity, in connection with our efficient fire department, Norwich virtually insures itself against the devouring element. Hose attached to one of the hydrants will easily throw a stream over the highest of buildings in the city.

Reference from: The Leading Business Men of Norwich and Vicinity Embracing Greenville and Preston, Mercantile Publishing Co., Boston, 1890

Often, Fairview had trouble recovering from dry periods due to the small drainage area provided surrounding Fairview Reservoir. W. H. Richards, C. E. reported on April 22, 1899, problems in the system for the water supply of Norwich. One such problem was the lack of rain and what this did to the supply at Fairview Reservoir. He stated that on Feb, 1, 1893, Fairview only had 50,000,000 gallons

remaining in its supply- barely a one month supply at the present rate of consumption

The inadequate watershed proved to be a hindrance to the available precipitations. He also stated that over a six-year period, ending April 1, 1897, the water was below the waterway (full reservoir) more than nine months out of each year. Because of this, he urged the Water Commissioners to immediately take steps to increase the capacity of the works. He also suggested that the selection of a source of additional supply should be governed by the quality and then by the quantity.



**Fairview
Reservoir as it
is today with a
standpipe
water tower.**

Picture Courtesy: Roy Bourque

Fairview Pump Station

The City must increase the quantity and quality of water in order to fulfill the needs of all customers. Due to the unacceptable refill rate of Fairview during dry seasons, curtailing of water use was required to be instituted to allow the reservoir to refill.

LEGAL NOTICE

**To All Who Use City Water
September 4, 1900
Norwich Bulletin**

Your attention is called to Rule No. 13 of the rules governing the use of City Water, which reads as follows:

Rule XIII

Street, lawn and garden sprinklers may be used from 5 to 8 o'clock a. m., and from 4 to 8 o'clock p. m., and at no other time. (Hydrants outside of meter are only allowed to be used by holding the hose in the hand.) They shall not be converted into jets or set up in any manner as spray or as temporary or revolving fountains. (Any sprinkler in operation supported by

or secured to a tree, stake, or standard of any kind will be considered as a set spray and charged for at the regular rate.) Nor shall the water be allowed to run to waste or to leak, or to be used in any unnecessary or excessive manner.

Whoever does or allows this, or uses the water for sprinkling purposes, without first reporting the fact to the Commissioners or their agents, shall pay a penalty of three dollars in addition to the regular rate.

The use of hose with "open butt," except where a meter is used, is forbidden; if so, used double rates will be charged.

For street, lawn, and garden sprinkling and other domestic purpose, no larger nozzle than $\frac{1}{4}$ inch shall be used, except with special permit.

C. J. Winters
President of Board of Water Commissioners

The Water Commissioners began to look at other sources of portable water that could be added to the system and carry the City through dry times. The Water Commissioners, in the Twenty-Sixth Annual Report of the City of Norwich Water Works, for the year, 1899, ending on March 31, 1899, put forth the need for a larger water supply due to the low levels during drought conditions. The Commissioners had Martin E. Jensen of C. E. Chandler & S. B. Palmer present six possible methods to increase the available water needed for future growth of Norwich.

1. **Enlargement of the existing Fairview Reservoir and the existing dam at Meadow Brook: Engineers found out the addition to the available reservoirs would be insufficient for future needs.**
2. **Meadow Brook: A nearly level meadow with tracks of peat and mud from three to twenty feet deep would be too cost prohibited to strip and rebuild a viable reservoir for the damming of quality water.**
3. **Blissville Brook: This area was not considered due to the site development- all water would have to be pumped and the water shed had many dwellings located within the area considered.**
4. **Red Brook: A branch of the Yantic River appeared sufficient for the present needs, but the margin for future growth would be small.**
5. **Sundry Sites:**
 - a. **Gardner's Lake is a natural lake artificially arranged, but controlled by a manufacturing corporation, therefore unreliable.**
 - b. **Billings Brook is very small and not large enough to fully answer the present needs of Norwich.**
 - c. **Peck Hollow Brook showed promise; a large reservoir but swampy, buy water rights and a railroad right of way would present problems.**
 - d. **Fitchville, a branch of the Yantic, had a small watershed.**

- e. Pease Brook had an ample water supply, but the area is too thickly inhabited.
 - f. The Yantic River, near the Yantic paper mill, appeared to have sufficient elevation and watershed, but the water rights would be cost prohibited.
 - g. Trading Cove had three branches but there seemed to have no proper place for reservoir development.
 - h. Broad Brook had a large and ample watershed and the water rights would be too large.
6. **Stony Brook:** A well-suited site for development of a reservoir. The character of the watershed was better than Fairview. The slopes were steep and rocky, with favorable analysis of water quality. The inhabited houses were not nearby and posed no threat to pollution. The reservoir could be developed economically with an elevation higher than Fairview. Using a branch of the Stony Brook could expand the proposed site. The estimated cost of \$297,000 with a five-mile pipeline could supply water entirely free of unpleasant taste and odor.

The April 25, 1904, Bulletin article tells of the Water Board and other official inspecting Fairview Reservoir and Bog Meadow as an object based on water storage:

“The purpose of the trip was an object lesson for the purpose of showing the value of the outlay at Fairview, which is claimed to be the best single reservoir in this section of the country. It could be seen from the LaPierre Farm about what would have to be done towards clearing out Bog Meadow and still a better idea could be obtained from the dam. It was also an opportunity to view the excellent basin, regarding which there has been some idea of damming and utilizing it as storage. This is just below Bog Meadow dam... an area where any waste water could be stored as some auxiliary reservoir.”

In 1911-1912, Stony Brook reservoir was constructed on a stream of the same name on a tributary of the Thames River in Montville, about four and three-quarters miles southwest of the City. Its earthen dam with a paved upstream slope and concrete core wall added 505 million gallons to the system. With its elevation of 272 feet and flooded area of 70 acres, it was considered a great step in ensuring an adequate water supply for many years to come.

As time continued, the reservoirs proved their worth, yet problems remained concerning the taste and clarity of the waters. Chlorination was added to prevent

illnesses from the water supply, yet taste and clarity problems remained especially during the annual turnover of the water sources. Pipes that remained unused for months at a time due to which reservoir was being drawn upon, yielded unacceptable color and taste which the customers complained about.

The City did have the water tested for bacteria and due to chlorinating the water; tests proved that the safety of the water was fine.

Yet the Water Commissioners felt that another supply would allow Norwich to entice industry and keep the present industries.

The History of Deep River Reservoir

“Bids will be received by the Board of Water Commissioners of the City of Norwich until 5 p.m., April 29, 1926, for the construction of a dam on Deep River in the Town of Colchester.”

“Plans may be seen at the office of Chandler and Palmer Engineers, Thayer Building, at which place the bids will be received.” in the City.

Norwich Bulletin: Advertisement for Construction of Deep River Reservoir

Deep River Reservoir was built on Deep River, a tributary of the Yantic River in 1929. The reservoir had a capacity of 384 million gallons with an elevation of 332 feet above sea level, more than enough head to produce good pressure for any reason. The Commissioners’ foresight into the construction of this reservoir proved ideal, because it was constructed to permit an increase in size for future expansion. A flow-line of 350 feet would allow it to have a storage capacity of 1,400 million gallons at full dam. Deep River, Stony Brook, and Fairview were each utilized, depending on which season of the year and the amount of water held in the reservoirs

In 1952, Theodore Braaten, the new General Manager for the Norwich Department of Public Utilities, after the combining of the Gas & Electric Department and the Water Department, gave this presentation:

Exerts from: The First Annual Report- Department of Public Utilities 1951-52

**Comprising: The Forty-eight Annual Report of the Gas and Electric Division
And The Seventy-ninth Annual Report of the Water Division**

By: Theodore Braaten, General Manager

“Buck, Seifert & Jost, Consulting Engineers of New York City, made a report upon Water Works Improvement in which they recommended the construction of a six million gallon per day filtration plant at Deep River Reservoir and also raising the height of the dam eighteen feet to provide a total storage capacity of 1,400,000,000 gallons. They further recommended that, when circumstances permit, this should be followed with the of a 5,000,000 gallon capacity distribution reservoir. Their report also pointed out deficiencies in the distribution system, which is critical. This report was made in 1941 and no concrete action has yet been taken on it.

Consideration should be given by the Board to recommending to the City Council possible changes in then new city charter as it affects this Department. As a public utility we are obligated to construct facilities which will assure adequate supplies of electricity, gas, and water to the citizens of Norwich. This requires preplanning over a period of years and we should have some assurance that when major projects are necessary, the money will be made available to fiancé them.”

At this time, changes were presenting themselves to City and citizens of Norwich. Most of the textile industries were moving south or going out of business. The older buildings, with multiply floors and multi-handling of products, proved to be too expensive to continue in their present condition. Natural gas was being delivered to Norwich by Algonquin and the gas plant became a relic of the manufacturing past of Norwich. The Department would be expanding into Taftville, taking control of the Ponemah’s utilities. Water, gas, and sewer extensions proved to be on-going. With a good supply of water, no need was anticipated.

Because of the age of the water system and the lack of maps of the pipes laid in the streets, many pipes were never drawn into the maps of the water department. Such is the case presented here:

Bulletin Article Feb. 24, 1961

Title: “P.U. Workers Dig All Day for Wrong Main; Mystery Pipe Found”

Norwich Public Utilities crews pumped and dug like beavers from early Thursday afternoon to nearly midnight to repair what they believed was a break in a 24-inch main in front of the Red Tag Laundry on Town Street., only to find that they were burrowing after the wrong pipe.... Philip L. White said that the pipe that caused the problem was a line running at right angles across Town St., and connected to a six-inch main servicing homes on that side of Town St.

The old cast iron pipe was not shown on any existing chart of the water system, White said, and added that one of the men of the crew who had 47 years of service with the department did not know of its existence. The pipe in question was not in service, having been plugged and left in the

ground. However, it apparently froze and split lengthwise, thereby continuously draining water from the six-inch line across the street....Mr. White said that the department had five portable pumps and the Yantic volunteer fire department pumper truck also working to drain the hole. Finally, they managed to pull enough water out to discover that they had shut off the wrong line. Once found, three hours of work solved the problem of the Wrong Main.

The Water Division was also responsible for the upkeep of the fire hydrates. The following Bulletin articles tell of this maintenance:

Norwich Bulletin Feb. 5, 1960

Clear Hydrants Chief Requests

Chief Wilbert Perkins of the East Great Plain Volunteer Fire Department had a suggestion for Norwich Residents Saturday night following a major blizzard.

He urged them to “shovel out” hydrants that may be situated near their homes..

“If everyone near a hydrant would do his share, the job would quickly be accomplished,” he said. “It would be a nice way to help out firemen who have been on duty since the storm started Friday night.”

With hydrants cleared, he said, firefighting operations would be easier if any fire should arise.”

July 30, 1960 Bulletin article

Things are brightening up in Norwich these days. The fire hydrant in front of City Hall having been painted a violent red and black by city utilities department employee Jeff Goldblatt, is attracting considerable comment from passers-by. One gentleman quipped: “Do they pay you extra for the chains?” Jeff incidentally, who is a sophomore student at William and Mary College, estimates he has painted some 150 hydrants so far this summer.

“The State Health Department inspected the watershed area surrounding each of the three reservoirs and found them, as a whole, in good condition. They also made periodic inspections of the chlorinators and regular tests of the water. The tests made by the State Health Department are in addition to regular weekly tests made by the Newlands Sanitary Laboratory.”

Norwich to Sort Out Ways to Sell Water to Local Communities

In this Norwich Bulletin story, Philip L. White, General Manager of the Public Utilities Department expressed this concept:

July 3, 1965

‘City Offers to Sell Water to Communities in Need’

Philip L. White, general manager of the public utilities department, said Thursday the water situation for Norwich is so satisfactory the department would be happy to sell water to anyone who needs it.

The community, White said, in sharp contrast to most of its neighbors, has water to spare....The city’s three reservoirs are in excellent shape, White said. At the end of May, he noted two of them were overflowing...Norwich has a reserve of one billion 200 million gallons and the city could certainly afford to sell some of its surplus.

Yet the Utility Commissioners pushed to have the problems of low pressure and poor taste of the water rectified.

August 1, 1965

‘Utilities Department Plans Improvements to Norwich’s Entire Water Main System’

The Board of Public Utility Commissioners Saturday announced a program of improvements to be made to the water system in Norwich that will greatly reduce and finally eliminate complaints about “dirty water” or low water pressure.... The magnitude of the problem may be judged from the fact that in 1900 there were in service more than 226,000 ft. of water mains. This means that the system has that amount of water mains in use ranging in age from 65 to 97 years. This fact together with lack of funds resulted in the decision to clean mains only in 1963 and 1964. Nearly 80,000 ft. of water mains were cleaned in these two years thus granting temporary relief to large areas.

July 21, 1965 Norwich Bulletin

Employees of Norwich Public Utilities Water Division are endeavoring to learn what caused an influx of dirty water over a scattered area in the local system.

Philip L. White, general manager, said Wednesday complaints have been received by the division for the past three or four days but as of late Wednesday afternoon the cause remained a mystery.

White said the dirty water is tuberculation, a technical identity for a barnacle like substance that accumulates on the inside of the water lines in similar fashion to barnacles forming on bottom of boats. This discolored water can be cleared by flushing hydrants. This has not proven true in this instance, he continued, for boats.

A Norwich Bulletin article noted a major change to all Connecticut's municipal water supplies in their January 3, 1966, note:

'Compulsory Fluoridation Becomes Effective in State'

Connecticut's compulsory fluoridation law went into effect Sunday and by October 88 percent of the state's population will be drinking doctored water....Water companies serving more than 20,000 but less than 50,000 customers must start fluoridating after Oct. 1, 1966.

In the February 20, 1970, edition of the Norwich Bulletin, excess water sales were discussed.

**SCWA Unveils Water Program
Feb. 20, 1970**

Excess water supply from Norwich's present \$8,696,000 water supply improvements program may help supply the Southeastern Connecticut area with adequate water beyond the year 2005, says the Water Supply Plan released Friday by the Southeastern Connecticut Water Authority (SCWA).

The 100-page planning volume, in preparation for about a year, calls for development of an interconnected "Central System" to provide water to areas located generally along both banks of the Thames River. Development is outlined in four phases through 2020. Cost of Phase 1, through 1975 is estimated at \$10,200,000.

Phases 1, 2, and 3, would result in a total capacity of 27.5 to 29.0 million gallons per day (m. g. d.) and carry the system through the year 2005, the report says. "It may be adequate beyond 2005, however, depending upon the extent of ground water (well) development within the Central System and the availability for purchase excess waters from the Norwich system."

June 16, 1970 Ad for a Yes Vote on Referendum

**VOTE YES
FOR CLEAN WATER
FOR VOTER INFORMATION
AND TRANSPORTATION
Call 887-1648
A YES VOTE IS A VOTE
FOR CLEAN WATER**

In 1967, C. E. Maguire, Inc. began the engineering study for the present filtration and reservoir system now present at Deep River Reservoir. The Maguire study recommended the construction of the filtration plant and the raising of the dam to increase the storage capacity at the reservoir on its 1,032-acre reservation.

Norwich passed a bond issue in the amount of \$6 million for the department's share in the water improvement program. Other funds were received from the Economic Development Administration and the Department of Housing and Urban Development. Atty. Martin J. Schaffhauser, Chairman of the Board of Public Utilities Commissioners praise the cooperation and assistance from the Norwich Community Development Corporation, Southeastern Connecticut regional Planning Agency and the Norwich Area Chamber of Commerce in their effort to pass the bond issue. Atty. Schaffhauser also cited the outstanding effort made by Richard Erickson and Stanley Israelite.

Mr. Robert Grimshaw, General Manager of the DPU wrote in the plant's dedication brochure that the fully automated controls of the plant will allow 24-hour remote observation of the entire operation of the plant that will ensure a trouble-free operation. Deep River Reservoir was raised approximately 18 feet and the added height increased the storage capacity 350% and an increase of safe yield of over 100%. This entire project had been presented to the Water Commissioners in 1941, but due to World War II, it never was considered.

This was no small construction event for this or any other city. The project was vast and demanded a close working relationship with the city, engineers and contractors.

Total working days:	600
Man Hours:	220,000
Pounds of reinforced steel:	1,600,000
Cubic yards of concrete:	12,664
Cubic yards of excavation:	225,000
Design man hours:	24,000
Design time:	21 months
Acres cleared:	150 acres
Linear ft. of pipe (inside):	1,500
Linear ft. of pipe (outside):	4,500
Linear ft. of electrical wire:	21,700
Stone protection:	13,000 tons

With the dedication on June 29, 1974, the official name became known as the Dr. Charles W. Solomon Water Purification Plant.



Picture courtesy: Roy Bourque

The reservoir is connected to the city by one 30-inch diameter transmission lines running through Bozrah, Fitchville, and into the Yantic section of Norwich. Along the way, this transmission line is tapped for two 24-inch feeder lines within the city and industrial park.

The design of the filtration plant was based upon a filtration plant found in Lowell, Massachusetts which operated quite well despite its poor maintenance. Debbie Ouellette, Chief Water Treatment Operator at the Deep River Reservoir, is also in charge of the other reservoirs in the Norwich system. The plant is constantly being tested to ensure the highest quality water for the citizens of Norwich. A new defused aeration system was placed in the reservoir to add air to the water and allow sediment to precipitate and add in the filtration of the raw water. The Ph of the water is constantly monitored and controlled. The reservoir is home to various fish, turtles, and snakes. The property is the habitat to deer, coyotes, birds, foxes, and other wildlife. An area of concern will be the Department of Environmental Protection's new stream flow regulations related to the amount of raw water needed to be added to the Yantic River at different times of the year which will allow different species of water life to continue to flourish. She has found healthy native trout in the weirs located at the bottom of the reservoir's dam. The weirs are used to check the seepage of the dam. Debbie came to the Department with a background in forestry and has been working closely with Connecticut Land Management,

replacing deciduous vegetation with a conifer leaf screen which protects the reservoir from the deciduous trees decomposing leaves. At one time the State of Connecticut supplied the seedlings, but now she must rely on natural regeneration because seedlings are no longer free from the State of Connecticut.

Debbie does tours for the school systems of both the water filtration system and forestry aspect at intermediate and mature forest sites. The efficiency of the entire filtration system has been upgraded with changes of lighting, refurbishing of the old pumps which are so well made compared to the new machinery, and the changes to redwood paddles in the settling basins. The watch engineers are trained patiently so as to foster the best skills required to keep the highest possible water quality. Water quality parameters are checked at all times. Chlorination and fluoridation are required by the State Connecticut for the health and safety of all citizens. Since 9-11, security has been upgraded in all areas of the facilities at the reservoirs.

In the July 1984 “Water Engineering and Management” article, Grant Weaver and Richard E. DesRoches wrote an impressive description of the water purification plant at Deep River. They stated that until mid-1974, surface water was piped directly to local homes and businesses having had chlorine and fluoride added, although the water was of high standards, quality suffered in other ways: taste, odor, color, and turbidity, particularly during seasonal “turnovers” of the storage reservoirs. This tainted the palatability of the municipal supply. They went on to say that by the mid-1900, the city owned and operated seven water supply reservoirs running in size from 1 to 125 acres scattered over a large area.

Deep River Reservoir Funding 1974

Project Funding

Total Project Cost-	\$6,175,000
Economic Development Administration Share	\$2,675,000
Department of Public Utilities Share	\$3,500,000
Total Water Improvement Program	
#1 Deep River Project – 12.5 MGD	\$6,175,000

#2	Water Supply Well - 1.0 MGD Water Storage Tank- 5.0 MG Taftville Booster Pumping Station, Connecting Water Mains- 17,000 ft. Cleaning and Cement Lining of existing water mains- 138,000 Ft.	<u>\$3,520,000</u>
	Total Program Cost	\$9,695,000
	Economic Development Administration Share (Item #1)	\$2,675,000
	Department of Housing and Urban Development Share (Item #2)	\$1,500,000
	City of Norwich Department of Public Utilities Share	\$5,520,000

The comparative costs of the treatment plant in 1974 dollars and 2008 dollars shows the value of this high quality water treatment system.

Deep River Reservoir Funding Comparison 1974-2008

Project Funding

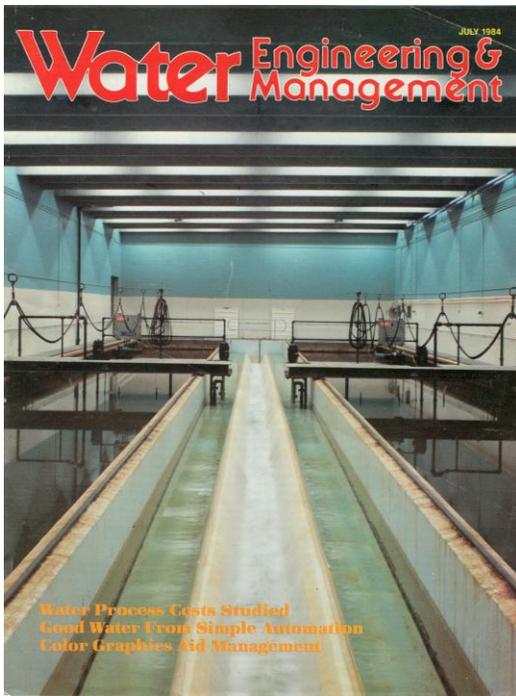
	1974	2008
Total Project Cost-	\$6,175,000	\$25,695,217
Economic Development Administration Share	\$2,675,000	\$11,131,126
Department of Public Utilities Share	\$3,500,000	\$14,564,090
Total Water Improvement Program		
#1 Deep River Project – 12.5 MGD	\$6,175,000	\$25,695,217
#2 Water Supply Well - 1.0 MGD Water Storage Tank 5.0 MG Taftville Booster Pumping Station, Connecting Water Mains – 17,000 Ft. Cleaning and Cement Lining Ft. <u>\$3,520,000</u>		
	\$14,647,314	Of Existing Water Mains – 138,000
Total Program Cost	\$9,695,000	\$40,342,531
Economic Development Administration Share (Item #1)	\$2,675,000	\$11,131,126
Department of Housing and Urban Development Share (Item #2)	\$1,500,000	\$ 6,241,752
City of Norwich Department of Public Utilities Share	\$5,520,000	\$22,969,651

Dam and spill way

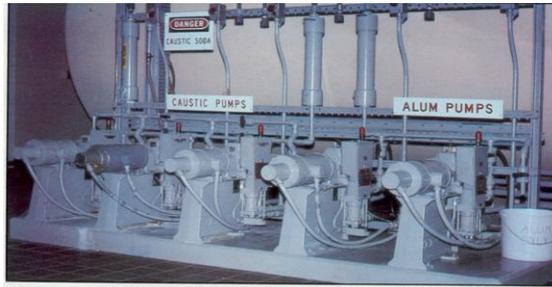


Deep River Reservoir
Courtesy: Roy Bourque

The average daily flow is usually above 4.3 million gallons with highs exceeding 6 million gallons daily during the summer months. Deep River and Stony Brook Reservoirs are monitored for quality twenty-four hours daily. Most of the water filtered and treated is done so unattended. The Deep River Filtration plant is manned eight hours daily, Monday through Friday. Due to the quality and reliability of the filtration system, very few after-hours calls to the plant are received.

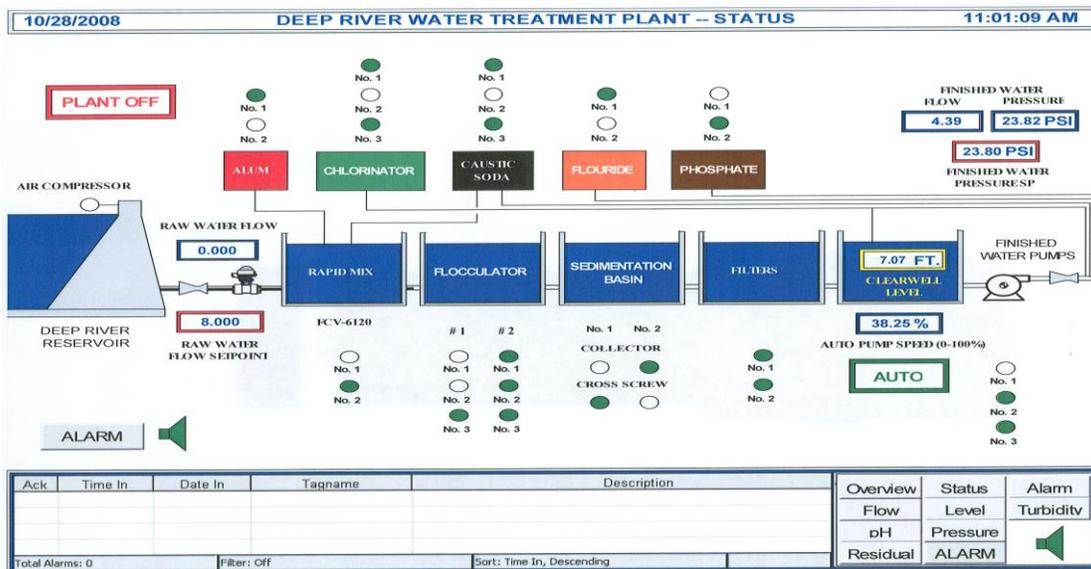


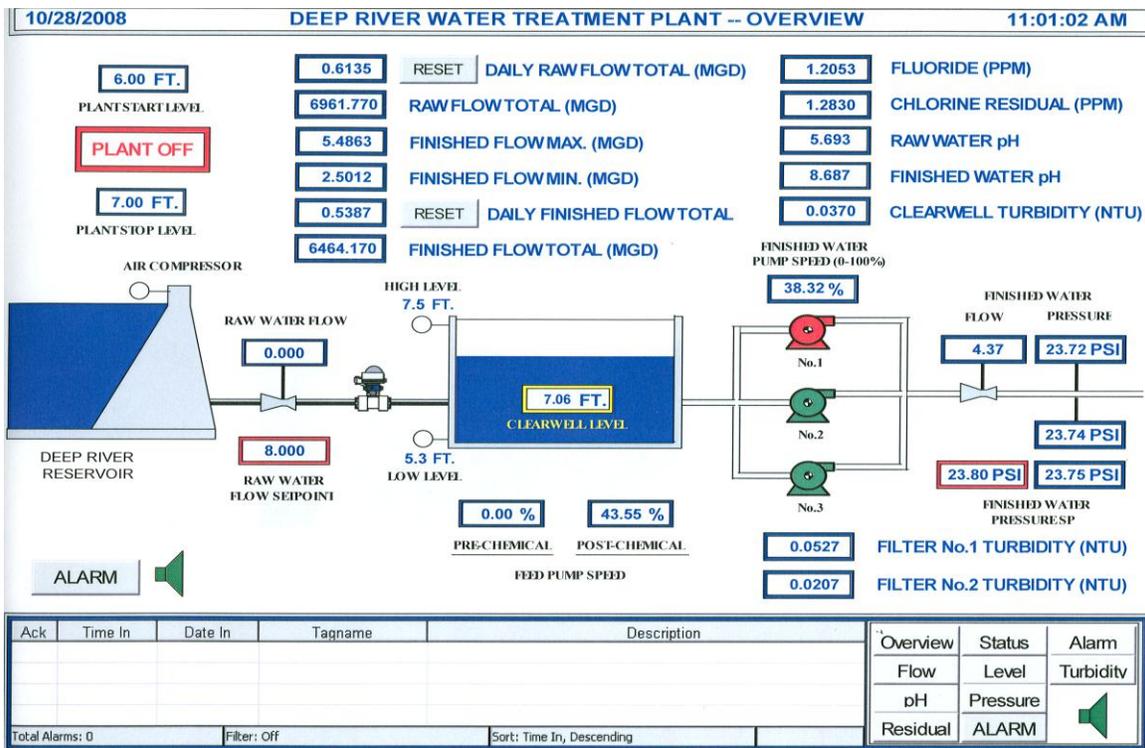
Main feed pumps have been modified by the addition of slow-closing valves to prevent water hammer in the distribution system.



Chemical feed pumps inject caustic soda and alum into the influent flow as it enters the treatment plant.

Images from the “Water Engineering & Management” magazine: July, 1984
 Examples of the computer monitoring of the
 plant





Courtesy: Debbie Ouellette, Deep River Reservoir Plant Operator

Presently, the DPU has one drilled well located in the Yantic River aquifer which has been identified by the Connecticut Department of Environmental Protection as one of 39 stratified drift aquifers estimated to have the potential high yield in excess of 5.0 million gallons per day. Currently, Norwich's well, in the Yantic River aquifer, is capable of producing 1.0 million gallons of water per day.

In 1975, CE Maguire prepared a report to the Norwich Department of Public Utilities which addressed a need to provide an extension of water service to the Occum section of Norwich. In 1987, an updated report was prepared and presented to the Commissioners which discussed well contamination due to contamination by the Department of Transportation's salt operation. Another reason was the lack of fire protection since a fire destroyed the Roto-Print Mill and its system pumped river water to a private elevated tank that provided water to hydrants around the mill area.

In an April 1, 1987, article in the Norwich Bulletin, the State of Connecticut said that about \$1 million dollars would be allocated to correct the water pollution

problem the state had caused. Since 1985, 12 families were receiving bottled drinking water from the state. Of the two million dollar cost of the extension, the City of Norwich would have to contribute about \$500,000. The extension was completed and Occum received municipally supplied water for drinking and fire protection.

The Norwich Department of Public Utilities presently has five water storage tanks, eight pump stations, and five reducing stations to provide water for the customers of the Utility. Many of the water mains in the distribution system of Norwich are well over one hundred years old. Norwich has received awards for this accomplishment of keeping the mains in usable shape.

The Sewer Department

By law, the Sewer Department came under the reigns of the Norwich Public Utilities on July 1, 1971, because sewerage had to be under the control of a utility. The origins of the Sewer Department are touted in an article from The Leading Business Men of Norwich and Vicinity Embracing Greeneville and Preston, Mercantile Publishing Company's write-up.

SEWERS AND SEWERAGE

It is difficult for any city or town to obtain good sewerage where it is built on land that has an almost level surface. In such localities sewers may be, and are constructed, and if they do their work at all, they do it sluggishly, and to little or no purpose. Water will not flow naturally unless moved by the impetus of a down ward tendency. Many of our New England, as well as our Western cities, suffer from having been built on plain lands, where it is impossible to get good drainage, and, in consequence, are visited periodically with fevers, epidemics, and contagious diseases. All of the – great scientists of the present day, unite in affirming that a large fraternity who have made the origins of various diseases and epidemics a special study, unite in affirming that a large majority, even if not all epidemics and scourges which sweep off its victims by the hundreds and thousands-often designated 'as visitations of God', - are attributable to the want of sewerage, or to imperfect sewerage. AS- an instance in support of this conclusion, the case of Memphis, Tennessee, is referred to, which was almost depopulated a few years ago by

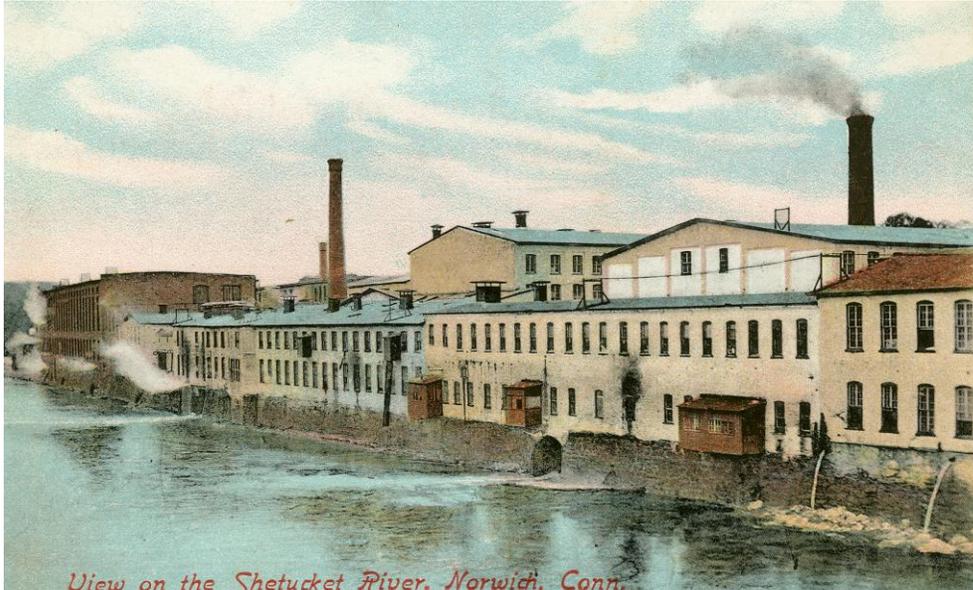
yellow fever, on account of an even surface of the land on which Memphis is built, no public or private sewerage had ever been attempted; but when the dreaded scourge had almost wasted itself for the want of more victims to feed upon, the remnant of inhabitants awoke from their lethargy, and at an enormous expense and debt to the city, constructed sewers, with artificial flowage, which have seemingly had the effect of averting a repetition of the epidemic.

Happily, Norwich is so situated that it needs no artificial means to force water through its sewers, or to wash its streets and gutters like Paris, and many cities which could be mentioned. Nature makes this work upon herself in our city, and often, after heavy rains and freshets, does it too lavishly. The streets lined with beautiful residences, warehouses and public buildings, rising one above another, are built on lands that rise abruptly from the rivers' banks that almost enclose the city, thus giving a natural and almost effective drainage. In connection with what nature has done in this respect, Norwich has built within a few years nine and one-half miles of sewers, at an expense of \$160,000, though its principal streets, which empty themselves in a rapid current into the river. Vital statistics testify that there is no city in New England more healthy than Norwich, or one that is more free of epidemics of every kind, malaria, fevers or fever and ague.

Five years ago, 5,111 feet (a trifle less than a mile, of sewers were built in the streets of Greeneville, at an expense of \$30,552.64, thus making that thrifty manufacturing suburb of the city a healthy, as well as a pleasant place of residence.

The Leading Business Men of Norwich and Vicinity Embracing Greeneville and Preston, Mercantile Publishing Co., Boston, 1890

This article is standard propaganda for the day. This ad was developed to push Norwich as a city with plentiful water and a healthy lifestyle. Of the nine and one-half miles of sewers developed at this time, many were covered over streams that lead the waste to larger water forms and finally, the Thames River. The code of those days stated that 'the solution to pollution is delusion'. The factories of Greeneville caused a constant stream of pollution into the waters of the Shetucket River. The heavy dyes, consisting of deadly heavy-metal chemicals caused the river to turn green or red, depending on what colors were being used in the dye houses. Bleach was also dumped into the Shetucket causing fish kills. Many people in Greeneville and other sections of the city where factories existed took their Saturday night baths in the rivers or streams. A picture of the Shetucket River at the time of the 250th anniversary of Norwich illustrates this concern.



This is a view of a factory setting along the Shetucket River. All factories dumped their wastes into the river.

The June 20, 1882, Norwich Bulletin:

The Court of Common Council reported that in a special meeting, Mayor Osgood along with Alderman Sears and others suggested a resolution for construction of sewers to be built in a variety of areas such as High Street, Church Street, Oat Street, Slater Street, and School Street. The resolution would introduce empower the street committee to open the contracts to responsible bidders. This was accepted.

On June 11, 1890, a policy ordinance was presented at the Court of Common Council with Mayor Crandall presiding.

“The formal business was waived and Dr. P. Cassidy was allowed to present for Mr. A. P. Sturtevant to the city the three graded streets which he has opened, sewered, and named, the one south of his house, Maple Grove Avenue, the one parallel with Yantic Cove, Harrison Avenue, and the street north of his house, named by Dr. Cassidy, Sturtevant Street. He made a speech worthy of his intelligence and expressed the hope that the names given them would be confirmed. The matter was referred to the street committee.

The street committee was authorized to construct a sewer on Washington Street from Greene Avenue to the present existing terminus of the Washington street sewer, a sewer on East Broad Street from Franklin to Warren Street, and a sewer on North Main Street from Roath to Golden, with an outlet to the Shetucket River, and a sewer on Central Avenue to intersect the existing sewer at a point near Golden Street.”

As time passed and Norwich changed, the growth of sewer lines continued illustrated by this major sewer line recommendation from the Public Works Committee. The following report tells of this process.

“The committee on public works begs leave to report that the sewer from Lake Street playground to Hickory Street, and in Hickory Street from Baltic to North Street, in Brook Street, in North Street from Hickory Street to East Baltic Street and in Pratt Street, the construction of which was authorized at council meetings held June 15th, 1922, June 13, 1924 and June 12, 1925, is completed. The cost of said sewer is \$50,856.49.”

Listed in the article were the names of sewer customers that were to be assessed and a committee was established to resolve interested customers’ difficulties. The report was accepted and this set forth procedures still used today of assessing the customers for the sewers.

In 1936, Norwich’s Department of Public Works constructed an interceptor sewer along a portion of the Thames River to eliminate six points of discharge of raw sewerage into the river. A primary sewerage treatment plant, designed to serve a population to 3,500-4,000, was constructed on Hollyhock Island, located between the west and east bank of the Yantic River in the downtown area.

By 1945, the city hired Kets and Holroyd from New York along with Chandler and Palmer of Norwich to study the problem of collecting and treating the remaining sewerage of the city. Their study indicated approximately 3,450,000 gallons per day of raw sewerage were being discharged during normal dry weather conditions for 20 outlets with additional small amounts periodically discharged from 6 minor outlets. Rose Alley, located on the river side of Franklin Square, alone discharged 1.5 to 2 million gallons per day.

A plan drawn up in 1947 was approved by the Connecticut State Department of Health for the construction of a primary sewerage treatment plant adjacent to the existing plant on Hollyhock Island. With these plans for the proposed new sewer treatment plant approved, the city continued to ask the state water commission for permission to construct additional sewers. By 1951 there were 33 miles of sewers in

service serving an estimated population in the consolidated city of 20,000. The sewers channeled storm water from the streets of Norwich.

On April 9, 1951, the Norwich Bulletin reported the largest expenditure coming up for review by the Council was a \$1,750,000 sewerage disposal plant proposal. A proposal of a sewer tax was touted as a way to help finance this large project.

In August 1951, the state water commissioner had the state police deliver an ultimatum to Mayor Richard Marks. It required the mayor to “get busy with your plans for a disposal plant for the city consolidated district.” The City was found to be polluting the waters of the state and was directed to “Construct sewage treatment plant, interceptor sewers, pumping stations, and force mains in accordance with the plan prepared July 1947.” The City was ordered to advertise for bids on or before September 1951 and, on or before December 31, 1953, complete construction and place in operation the sewage treatment plant, pumping stations, force mains, and interceptor sewers.

The city asked for and was granted an extension in October 1952 with the state agreeing not to take action provided that the City submit to the State Water Commission on or before January 1953 reasonable indication that the City was moving forward. On March 17, 1953, Norwich held a referendum on a bond issue for financing the construction of the plant. The bond referendum was not approved and the City notified the state that it could not precede.

In March 1954, the City was told that it needed to proceed at once with the building of a sewage treatment system, submit a report on compliance on June 11, 1954, or face contempt charges. Judge Thomas E. Troland explained that it was the duty of Norwich voters to comply with the court order.

Since said date (March, 1953) the city of Norwich has failed to take any action in compliance with the order of the State Water Commission. The action by the voters of Norwich in voting disapproval of the bond issue, no doubt, was brought about because they did not thoroughly understand the urgency and necessity of compliance with the state’s order and the duty which rested on the voters to do their part in carrying out the order.”
Norwich Bulletin March 6, 1954

The judge further went on to speak about the police powers of the state that embraces regulations designed to protect public health, public morals, and public safety.

“Public health is a matter of statewide rather than local or municipal interest or concern and in the regulations of public health the power of the state is supreme.”

On July 20, 1954, the State Supreme Court handed down a decision against the City of Norwich which stated in essence that the State Water Commission’s aim in having the City build a sewage treatment plant was valid. “The long history of the Water Commission’s campaign against pollution has shown that municipalities have been not only reluctant but actually antagonistic to the state program.”

In August 1954, the City Council set a public hearing to appropriate \$6,688 from the unexpended balance of the old sewer commission fund to defray the cost of revising the sewer treatment plans and specifications. The City Council agreed that it was fruitless to re-argue the state decision and the City Manager was directed to notify the State Water Commission in the hopes that this would satisfy the court who had issued an August 23, 1954, deadline for the city to comply with the order. There was further discussion of a revenue bond at 3% versus general obligation bonds at 1 3/4%. At the September council meeting, the City Manager was authorized to hire a bond council to prepare a bond ordinance. With this accomplished, the City began the process of building a primary sewage treatment plant, the sewer interceptor lines, and the accompanied pumping stations.

By 1956 the primary sewer plant was operating, separating solid waste to about 65% of capacity. The effluence was treated with chlorine and the water sent into the river. Still, not all lines were tied into the system and some raw sewage was still sent into the rivers. The sewers in these cases were capped brooks which lead to the river.

The Sewer Department held an open house at the Hollyhock Sewage Treatment Plant. This was advertised in the Norwich Bulletin.

September 11, 1960

Open House Slated at City Facility

“The City of Norwich is planning a special “open house” program for some phases of one of its departments.

Acting City Manager Orrin Carashick announced Saturday that the sewage filtration plant on Hollyhock Island will be open to the public on September 25 between 1 p.m. and 6 p. m....

The sewage plant, which the city built after a long delay in the face of a court order, cost about \$1,653,000 to construct. However, the federal government contributed \$250,000 in construction cost.

In the New London Day, on July 23, 1968, Stanley Israelite, executive director of the Chamber of Commerce told of the need for sanitary sewers and its financing which would aid industrial development and “tax dollars from industry which will benefit the entire city.” Eugene Sullivan, vice president of the Chamber also spoke concerning the Norwich City Council’s action in making sanitary sewers a general benefit under terms of the 1965 Charter revision in view of the State’s Clean Water Act. With federal funds contributing 50% of the sanitary sewer program and the state providing another 35% of the cost, it would provide Norwich with a cleaner, healthier community. Opponents felt that the services provided by the Sewer Department were being taxed on people not receiving the services. One point of contention was the rate at which customers of City’s Sewer Department were charged. A reaction by the commissioners, always looking for ways to assist the customers, presented itself.

March 2, 1972 Sewer Charges Drop from 80 to 60 Percent

A reduction in the sewer-use charge beginning July 1, from the present 80 per cent of uses’ quarterly water bill to 60 per cent, was approved by the Sewer Authority Tuesday night. The reduction was based on projections of water and sewer use revenues for the present quarter’s billings, is contained in an operating budget of \$272,195 approved by the sewer authority.

At the current rate of water revenues, the department should have enough money to pay off the \$80,000 debt it owes to the city, so that the sewer use charge can be reduced to 60 per cent by July, Robert Grimshaw explained after the meeting.

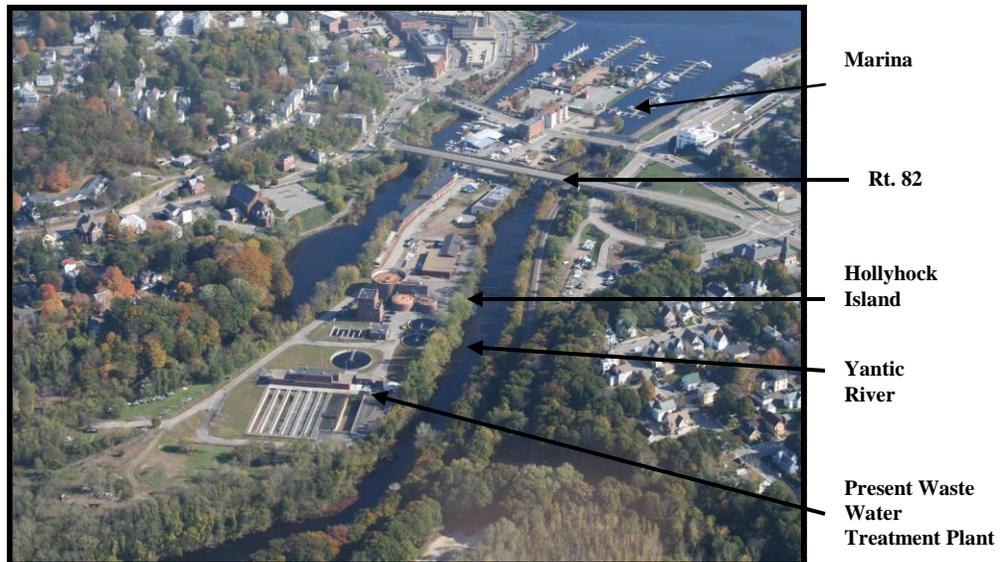
The sewer-use charge reduction did not satisfy Commissioner H. Downer Johnson, who commented that while he agreed with the rest of the budget, the sewer use charge should be “closer to 55 per cent...it’s just not low enough.”

Johnson blamed what he termed excessively high use charges on the fact that un-separated storm and sewer runoff waters into the city’s sewerage treatment plant.

“That water is being processed, and it’s costing us money, but the city should be paying for that, not the user...” Johnson contended.

In 1973, a new larger secondary treatment plant was constructed on Hollyhock Island and commenced full service in 1976. Norwich has over 63 miles of sewer lines with four main interceptor lines located in Yantic, along the Shetucket, Thamesville, and Laurel Hill. Seventeen pumping stations, with a capacity of over 12 million gallons a day, would conduct the wastewater through; grit removal, primary settling, aeration, secondary settling, chlorination, sludge digestion, sludge thickening, and sludge dewatering.

Photo: Courtesy Roy Bourque



The Department of Public Utilities needed to extend the life of the sewer treatment plant and reduce the overflow of raw sewage due to runoff from rainstorms when the plant could not absorb the vast amount of discharge received from the sewer system. Storm water, carried by combined sewers, caused the vast influx into the treatment plant. The Department began a campaign to separate the storm and sanitary sewer lines.

By the end of 1982, design work had been completed for dewatering equipment which would reduce the volume of sludge transported to the city's

landfill, thereby reducing transportation cost. Contracts had been completed on 4 of 5 Sewer Separation Contracts, totaling \$7.1 million dollars. These four contracts completed the separation of storm and sanitary flows in the Downtown and Westside areas of Norwich. A sixth contract was awarded for separation work in the Washington Square and Sachem/Yantic Street areas with the Federal Government paying 90% of the costs. With over 1,565 million gallons being treated in the flows to the sewer plant in 1983, the spring flooding conditions had a severe impact on the Treatment Plant, causing biological floc to over wash the weirs. A new sludge belt filter press had been installed in-house helping to assist in the treatment of the sanitary waste. Spaulding Brook Pond flow had modification thereby allowing better control during storm flow.

During 1984, Hollyhock Treatment Center treated over 5 million gallons of industrial and domestic wastewaters that were trucked in for disposal. In 1986, Hollyhock Treatment Plant received 1,730,000,000 gallons of wastewater. After 85% of the pollutants were removed, the treated water was returned to the Thames River. The plant also treated 5,300,000 gallons of industrial wastewater, and 380,000 gallons of septic tank waste. By 1990, the Sewer Division personnel responded to approximately 1,200 Call-Before-You-Dig mark outs, ran 17 pump stations, kept the main lines cleared by jetting 40% of the City's sewer mains, and replaced ten manhole frames and covers. The Sewer Division personnel also eliminated seven combined sewer overflows, and 12 service connections that conveyed sanitary sewerage directly into the Thames, Shetucket, and Yantic Rivers.

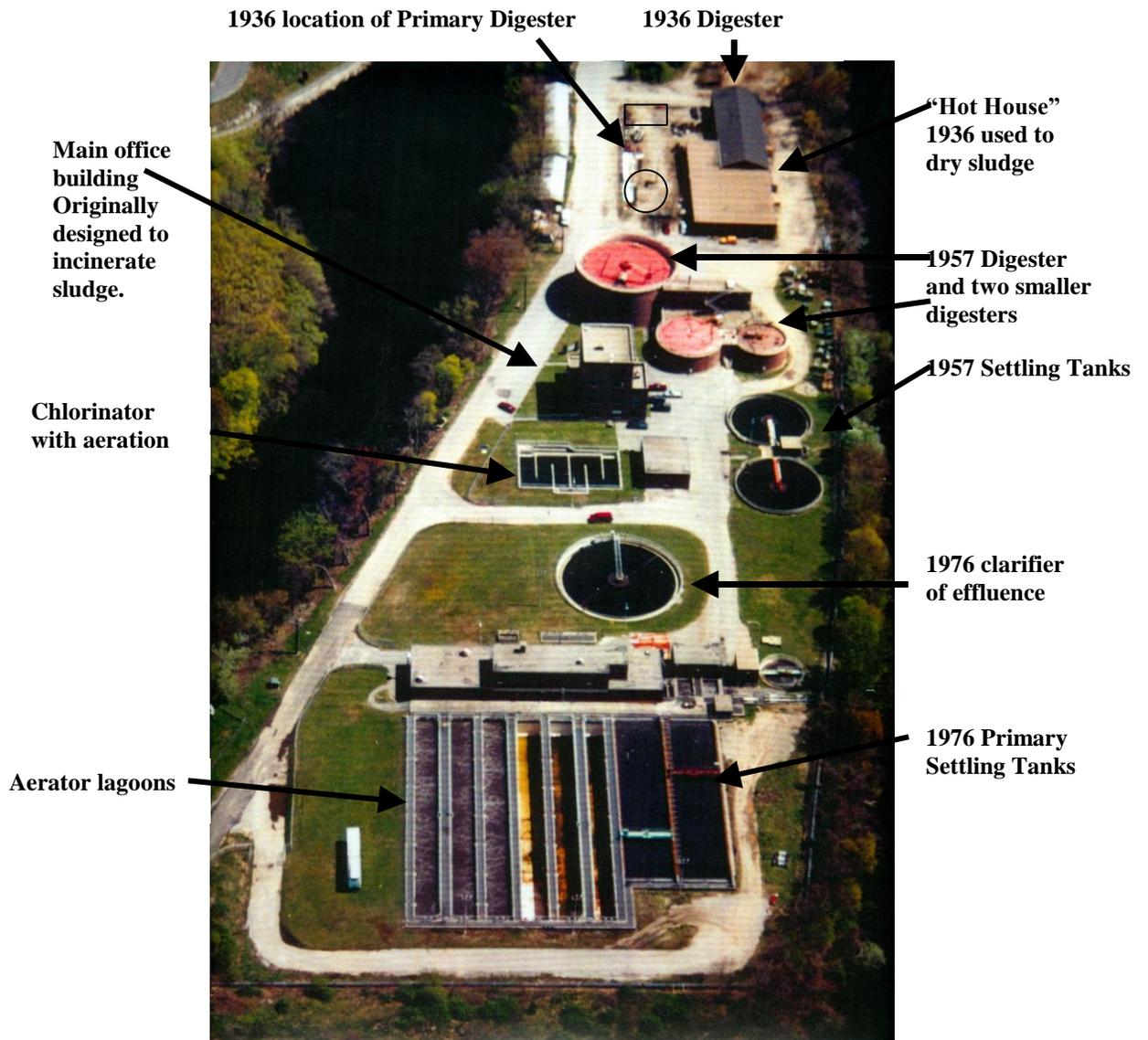
Vast areas of Norwich do not have public sewers. This has tremendous implications into the growth of Norwich as much as the water supply. Public sewers determine the future of the community, because without them, urban and industrial growth is slower. With them, development can proceed at a faster pace.

By 1995, the City of Norwich owned and operated its own gas, electric, water, and sewer systems through the Department of Public Utilities, serving approximately 17,800 electric customers, 7,200 gas customers, 9,400 water customers, and 5,500 sewer customers with over 100 miles of sewers. The plant met the criteria of the National Pollution Discharge Elimination System for its

environmentally safe operation. New sewer lines were installed in four major areas of the city while installing odor control equipment at all sewer pumping stations.

During the fiscal year 2002-2003, the Sewer Division installed 11,143 feet of main and provided waste treatment access to new 175 homes. In the 2007-2008 fiscal year, the Department of Public Utilities completed a wastewater treatment facility upgrade plan for review at the state level in order to design and implementation to identify funding opportunities and assist application processes to up grade the wastewater treatment digester at the Hollyhock Island plant. By October 2009, Norwich must submit a comprehensive Long-Term Control Plan for approval under order of the Connecticut Department of Environmental Protection. This plan must address combined sewer overflows that occur during wet weather, when the combined system gets overloaded. In the mid-1970's Norwich had 43 active combined sewer overflows and as of 2008, there were 15 active overflows remaining.

Norwich has thirty sewer pumping stations, sixteen with emergency generators for backup incase there is a loss of power. Some areas of Norwich still rely on gravity feed to the treatment plant to carry the waste water to the plant. Norwich will be using methane gas, a by-product of the treatment system as a fuel for heating the digester and other plant buildings and for generating electricity. In 2002, new regulations were enacted by the state of Connecticut to control over-enrichment of nitrogen being fed into the rivers and therefore Long Island Sound. Norwich does not meet these requirements that will become more stringent by 2014. To achieve compliance with the total nitrogen regulations, new equipment is required and the plant must be modified. The sewerage treatment plant station has been in continuous use for 30 years, well past its life span, and has reached the end of its useful life.



Arial view of the Wastewater Treatment Plant- Hollyhock Island Photo: Courtesy Roy Bourque

Origins of the South Golden Street DPU Building

In 1853 the Norwich Gas Light Company began on the Greeneville Road location. Its capital investment was \$90,000. The first President was Gurdon Chapman, Secretary and Treasurer, Caleb B. Rogers, and Superintendent B. M. Douglass. The Directors were: James L. Day, Charles A. Converse, William E. Parks, Joseph T. Thurston, E. Winslow Williams, and Frederick W. Treadwell. Its office was at 6 Central Wharf. Its office moved to 126 Main Street by 1888. Later it moved its office to 126 Main Street. Its capital increased to \$125,000 and the officers included: Franklin Nichols- President, Charles C. Johnson, Secretary and Treasurer, and O. Gillmor as the Gas Superintendent. The Board of Directors included Franklin Nichols, John Fox Slater, Charles C. Johnson, E. N. Gibbs, Charles Webb, and Frank Johnson.

The present office and maintenance facilities of the Department are located next to the original Gas and Electric Company property. The building located at 13 South Golden Street has had many different owners and operations.

Area of dispute: Property may have been owned by Samuel Mowry, a Greeneville native who owned a machine shop in and around the South Golden Street building. This was passed to his son, James D. Mowry. It then became part of the estate of William C. Mowry- located on the Page Steam Heating Company property. This became known as the Thames Arms Company in 1905. One of the presidents of the Thames Arms Company was Charles F. Thayer, mayor of Norwich.

1862 The Car Property as it was known because railroad passenger coaches were once made there

1863 January- The Car Shop became known as the Eagle Armory, maker of muskets for the Union army during the Civil War.



- 1865 Mowry Machine Company**
- 1887 Front Building- The William Page Wood Type Company**
- 1887 Hobart H. Roath Foundry 23 Greeneville Road**
- 1860 23 Greeneville Road Hobart H. Roath Foundry**
- 1905 Thames Arms Company founded in 1895 by Fredric W. Cary and James D. Robertson under the name of The Thames Chain and Stamping Company and moved to Golden Street building formally occupied by the Page Steaming Heating Company, purchased from the estate of William C. Mowry. The chains were discontinued in 1901 and the firm became known as the Thames Arms Company. The Company discontinued as a business in 1910. (The Norwich Arms Gazette published by the Guns of Norwich Historical Society, inc. Sept.-Oct 2005**
- 1912 The Brainerd and Armstrong Company Silk Goods Manufacturers**
- 1924 Corticelli Silk Company**

APPENDIX A
Highlights of
The Department of Public Utilities

These are yearly highlights from various reports since the inception of the Gas and Electric Division by the Public Utilities Commissioners.

1854

- **Norwich Gas Light Company founded.**

1887

- **Norwich Electric Light Company founded. The power production plant is located at 13 Chestnut Street.**

1891

- **The State of Massachusetts enacts a law for the municipalities to establish municipal gas or electric plants, or both.**

1893

- **Connecticut legislature follows suit with the enacting of an act empowering cities, towns, and boroughs to establish a gas and electric plant, or both.**

1897

- **Norwich's investor owned gas and electric companies merge to form the Norwich Gas and Electric Company**
- **Norwich City Gas Company- a combination of the original Norwich Gas Light and People's City Gas**

1902

- **Connecticut General Assembly enacts legislation that authorizes City of Norwich to own and operate utility**

1903

- **The City of Norwich begins the process of litigation for the ownership of the Norwich Gas and Electric Light Company.**

1904

- **The City of Norwich acquired land (by eminent domain), buildings and gas and electric generating equipment of the Norwich Gas and Electric Company at North Main Street on July 1, thereby forming the Municipal Gas and Electric Department.**
- **\$227,000 purchase price financed with revenue bonds**
- **There are 1,542 gas customers**
- **There are 524 electric customers**

1905

- **50,723,800 cubic feet of coal gas was produced with 9,238,500 cubic feet unaccounted for due to poor pipes.**
- **The cost per kilowatt averaged 4.362 cents.**
- **Stable expenses for this year for both Gas and Electric were \$797.14 or \$18,175.25 in today's monies.**

1906

- **Stable costs for the City of Norwich's Gas and Electric were \$823.21, or \$18,769.66 in today's value.**

1907

- **Uncas Power Company agrees to furnish power to the city, supplementing city-generating facility for \$.01 per kilowatt-hour (\$0.23 per kwh- today's value)**
- **Prior to April 2, 1907, the incandescent lamps had burned only until one o'clock A. M.; since that date, as directed by the Court of Common Council, we have kept them burning all night.**
- **First requirement put forth to have the employees check new gas and electric connections so as contractors or property owners defraud or attempt to defraud the City by using gas or electric without paying.**
- **Stable costs were \$1417.00 or \$31,155.65 in today's monies.**

1908

- **The number of arc lights now in use by the City is 235, and the number of incandescent lights is 294.**
- **These lights have burned all night and every night during the year.**
- **The actual cost of each arc light per year was \$79.53 and \$13.85 for each incandescent light.**
- **Gas main extensions included the following streets: Elizabeth, Prospect, Fountain, Coit, Perkins, and Seventh.**
- **The office in City Hall was moved to No. 321 Main Street due to a larger space needed.**
- **Stable expenses were \$1,592.13, or \$36,313.53 in today's value.**

1909

- **Electric rates to customers reduced from 14 cents per kwh (\$3.19 per kwh, today's value) to 10 cents per kwh (\$2.28 per kwh,- today's value) for purchases of from 1 to 450 kwh. Minimum monthly charge is 25 cents (\$5.70- today's value).**
- **The Superintendent, William F. Bogue's salary for this year is \$2,500.00 and Archa W. Coit, Clerk and Cashier will be \$1,200.**
- **The gas main in Norwich Town was tested for leaks. It had not been tested since the City took it over in 1904. Many leaks were found. A map showing the location of all gas mains is rapidly approaching completion.**
- **Expenses for the stabling of horses for the Gas and Electric added up to \$1,438.00 or \$32,798.01 in today's value.**

1910

- **The cost of lighting public buildings was \$812.63, leaving the cost of lighting the streets \$18,518.98. Of this amount \$15,634.17 was for arc lights and care of same, and \$2,884.81 for incandescent lights and care.**

- Our average day or power load now exceeds the average night or lighting load and is such that neither the Uncas Power Company nor our station can carry it with one machine. This makes it necessary for us to run at the full capacity of our station when the Uncas Power Company is shut down for lack of water.
- Stabling the horses for this year was \$1,395.37 or \$30,690.26 in today's value.

1911

- Utility department has two full time employees: William F. Bogue, superintendent, \$2500 per year (\$57,020.75 - today's value); and, Archie W. Coit, clerk and cashier, \$1,200 per year (\$27,369.77- today's value).
- The City Statute provides that the gas and electricity used by the City shall be charged to it at cost. During the year covered by this report was \$20,381.40.
- The new General Electric Company 750 k. w. horizontal Curtis steam turbine set and necessary equipment was contracted.
- There has been a gradual increase in the use of gas during the year mostly for domestic cooking and heating purposes. It is the desire of the Commissioners to extend this service as fast as practical.

1912

- Total profit for electricity this year was - \$28,253.88.
- Total profit for gas this year was - 12,765.04.
- Active meters for gas and electricity are 4,626.
- The amount spent on Stable expense was \$3498.07. In today's money it would be \$74,264.26.

1913

- The book value of the gas and electric plant is \$634,605.52
- The profit or surplus for 1913 is \$132,508.96.
- S. J. Kehoe, Superintendent's salary is \$2,000.00.
- Archa W. Coit, Clerk and Cashier's salary is \$1,200.00
- The amount spent on Stable expenses dropped to \$940.90. In today's money it would be \$19,507.20 or \$54,757.06 less than 1912.

1914

- Annual report notes new gas holder with 500,000 cubic feet capacity was purchased and new gas mains and services provided. City now has 3,070 gas meters in use; 2,210 light meters; 202 electric power meters.

- The cost per arc light is \$54.55 per year while the cost of incandescent lights is \$7.70 per year.
- Stable expenses were for both gas and electric divisions equaled \$1927.66 or \$39,452.31 in today's value.

1915

- The Commissioners during the 1915 fiscal year are: James J. Donohue, Archibald S. Spalding, Daniel T. Shea, Charles E. Whitaker, and David S. Gilmour.
- New electrical lines and poles cost \$2,295.76 this year.
- Electric power meters increased to 154 for the year. Electric light meters increased to 2,485.
- Stable expenses for both gas and electric divisions equaled \$1,887.63 or \$38,250.53 in today's value.

1916

- New gas mains were extended to the following streets: High Street, St. Regis Street, Sherman Street, North Main Street, Boswell Avenue, Canterbury Turnpike, and Harland Road.
- 1916 represented the last entry for stable expenses illustrated in the Annual Reports for the Board of Gas and Electric Commissioners. The costs of the stabling of the work horses were no longer shown. The amount for this year was \$2,345.13 or \$44,164.70 in today's value.

1917

- All gas income amounted to \$68,877.04 with expenses of \$67,930.45 leaving a gain of \$946.59. All electric income amounted to \$167,158.10 with expenses of \$135, 226.08 leaving a gain of \$31,932.02.
- H. E. Mole, Engineer presented a Needs and Working of the Municipal Gas and Electric Plant:
 - A report of this description is obviously of little value if it deals only in generalities conversely, if it is specific there are so many details that enter in, it is difficult to draw the line.
 - First- To obtain the services of a suitable man to look after the Gas property.
 - Second- To get the boilers, stokers and forced draft outfits now delivered in commission.

Unquestionably, a more desirable location for an electric power station would be one where coal could be brought to the site by boat...

1918

- State of war created many problems obtaining supplies and equipment.

The Commissioners stated:

“Unlike the Water Department, which stores one of nature’s great gifts and distributes it to consumers, the Gas and Electric Department has to manufacture by complicated processes the light, heat and power it delivers. The elements entering into this manufacture are subject to wide fluctuations of cost, and of late it has been increasingly difficult to obtain adequate supplies at any price.”

1919

- Mayor J. J. Desmond turns on new electric generator.
- Both gas and electric departments show profit.
- The City rebuilt the gas plant capable of supplying satisfactory gas for illumination and fuel in adequate quantity.
- The cost of electrical lighting for the public buildings of the city was \$19,588.05.

1920

- Stephen J. Kehoe, superintendent’s salary is \$3,000.00 while Fred S. Maples’ salary as clerk is \$1,800.00.

1921

- Charles W. Taggart became General Manager with a salary of \$6,000.00 and Mr. Maples’ salary increased to \$2,400.00.
- The total gas and electric meters in use rose to 8,671.

1922

- The cost of running an incandescent street light for one year was \$9.92, while the Nitrogen lights cost \$56.22 per annum.
- Meters in active use increased to 9,309.

1923

- Good reception to new gas commercial department.

1924

- City plans new “Great White Way” for downtown area.

- **Gas meters in use- 4,482**
- **Electric meters in use- 6,602**
- **Gas service was extended to Bean Hill section of Norwich Town and Boswell Avenue north to Hunters Road.**

1925

- **City resists several offers for purchase of gas and electric department from two prospective buyers.**

1926

- **City's new "White Way" in effect.**
- **Organized a Home Service Department to promote gas as a cooking source. Recipes are sent with bills to encourage customers to 'Cook With Gas'**
- **Thirty additional ornamental lighting units added to Franklin Square**
- **Gas sales were \$210,042.53 for the year.**

1927

- **The new hydro plant on the Shetucket River nears completion.**
- **The "White Way" is extended to Franklin, Bath, and Shetucket Streets with a much improved and brilliant appearance after dark.**

1928

- **The Hydro Electric Plant at 2nd Street was placed in operation during the month of August, 1927.**
- **General Manager Taggart requested a suitable service building due to the badly handicapped shop, storeroom and garage facility.**

1929

- **The City of Norwich celebrates the 25th anniversary of acquisition of gas and electric plant.**
- **The city notes the handsome equity in the property.**
- **There is little growth during the depression to follow.**

1933

- **The department launches a campaign to "tell them about cooking with gas."**
- **Recipe cards are distributed with bills to encouraged customers to cook with gas as their source of heat.**

1936

- **Occum hydroelectric facility begins generating electricity.**

1937

- **Work is being planned to renew gas services on streets where “electric cars” are being removed (trolleys).**

1939

- **The city is still recovering from hurricane and flood of September 21, 1938. The hurricane wreaks tremendous damage in Norwich, and the department takes three to four weeks of around-the-clock effort to restore service with help of out-of-state crews. As many as 300 men were involved in reconstruction effort. Direct cost was \$67,932.91 (\$1,004,150.30- today’s value). Also, \$72,603.44 (\$1,073,329.94- today’s value)spent during fiscal year to replace capital casualties.**
- **The Occum dam was demolished in the hurricane, but full rebuilt by February, 1941.**

1942

- **The beginning of World War II brings hard economics on the department. There were difficulties obtaining parts and fuel oil which was particularly disturbing.**

1947

- **The department purchases building at Shetucket Street for \$55,000 (\$505,490.16- today’s value)**

1949

- **Continued progress in improvement and expansion of services to meet growing needs.**
- **Service is extended to Melrose Park and Fairview Heights. New Lighting installed with 125 units in the city and 42 in the town.**

1950

- **An agreement is signed with Connecticut Light and Power for reserve power.**
- **Melrose Park is completed with 51 family units. Fairview Heights is completed with 64 units. Both developments use gas for heat and hot water. Service is extended to Hillside Terrace off Hamilton Avenue with 51 units.**

1952

- **Arrangements initiated to change over to Algonquin natural gas.**

1953

- **First natural gas arrives here from Texas on November 1, by way of the recently completed Gulf Coast pipeline as the NDPU replaced the manufactured gas.**
- **Water Department is transferred from the Board of Water Commissioners and offices moved to Shetucket Street. Water Department and Gas and Electric Department combined under Department of Public Utilities with new five-man Board of Public Utilities Commissioners.**
- **Service provided for 145 new homes in Norden Village.**

1956

- **New gas metering and regulating stations installed in Greenville and Norwichtown. New water service is added for Salem Turnpike.**

1957

- **Proposed buyout of Norwich Public Utilities by Connecticut Light and Power is presented.**
- **Waste water treatment plant expanded on Hollyhock Island due to State of Connecticut Health Department requirements.**

1960

- **The new 10th Street Substation is completed and South Golden Street propane plant is built.**

- **The Greeneville Dam is purchased along with the water power Canal that supplies the new 10th Street Hydro and the older 2nd Street Hydro.**

1963

- **Spaulding Dam bursts with the loss of six lives and much property damage. Gas, Electric, and Water crews work around the clock to restore service to the affected area.**
- **Reduction in electric rates will save some \$86,000 a year (\$576,648.74-today's value) for customers.**
- **Ponemah Mills' electric distribution system purchased plus three reservoirs.**
- **New mains installed for Balawender Drive and Gifford Street.**

1964

- **Annual report notes new substation in Taftville with electric heating on the increase. Street lighting is again upgraded and water mains extended to new homes on Dellwood Road and Cherry Lane in Cherry Hill Development.**

1967-1968

- **The Department added 316 new customers for a total of 14,365.**
- **The Electric Division annual usage increased to nearly 4,026 Kilowatt hours at the record low cost average of 2.76 cents per Kilowatt, one of the lowest in New England.**
- **We had a turnover of 80 employees including retirements, deaths, and other separations.**
- **An extensive study was made by Charles A. Maguire and Associated, engineers, on the water supply and treatment facilities for the City of Norwich. As a result of this study, a plan was proposed and adopted to meet future expansion formulated to the year 2020.**
- **There is also available to our customers a free complete home heating survey with a final estimate of what the cost would be to heat with gas or electric.**
- **For the year 1967-68, the Department of Public Utilities made a cash contribution to the City of Norwich of \$566,883.**

1968-1969

- **This spring work will begin on construction of a modern water purification plant that will process all water collected on the Deep River watershed and stored in the enlarged reservoir. The new water treatment plant will provide**

the people of Norwich with an excellent supply of pure water for the next 50 years.

- **Vying for top honors is the outstanding float built by the Department of Public Utilities for the 1969 Norwich Rose Arts Festival.**

1969-1970

- **The 1969-1970 annual report was a tribute to “old Norwich.”**
- **Pictured in the report were: Philip A. Johnson standing in front of the Leffingwell Inn; a picture of Dr. Joshua Lathrop House where Benedict Arnold worked, believed to be the first drugstore between Boston and New York; The East District School house; the Joseph Carpenter’s silver shop on Green in Norwichtown; and the Municipal Gas and Electric Plant.**

1970-1971

- **The Commissioner’s Report:**
 - **We are pleased to present this annual report of another year of progress by our community and our Department of Public Utilities. In each annual report we provide financial data that indicates the department’s cash contribution to the city in lieu of taxes. This is a rather substantial amount and helps reduce taxes while providing the community with the most economical and efficient public utilities possible. But, our contribution goes beyond this consideration. We feel that one of our greatest contributions has been to the economic growth of Norwich. The Department of Public Utilities has made a concerted effort to cooperate in every way possible with the Norwich Community Development Corporation, the Chamber of Commerce and other agencies and individuals working to foster the commercial and industrial growth of Norwich. Therefore, the capital improvements made by the department during the past year reflect our desire to meet the needs of a growing community and to make possible a healthy economy for our people. We are proud of our new facilities designed to serve you better and, in particular, the new water filtration system at Deep River Reservoir that has filled a long-standing need.**

Martin J. Schaffhauser Commissioner

1971

- **Propane plant built on Salem Turnpike to provide greater peak shaving flexibility and becomes operational in 1972.**
- **Transfer of the city’s sewerage facilities from the Department of Public Works to the newly formed Sewer Authority in the Department of Public Utilities.**

1972

- **Bean Hill Substation becomes operational.**
- **Liquefied Natural Gas (LNG) facility built in Norwich Industrial Park.**



1976

- **Connecticut Municipal Electric Energy Cooperative (CMEEC) formed to provide bulk purchasing of lower-cost wholesale electricity.**

1981-1982

- **Creation of the Norwich Industrial Park**

- **Implementation of the \$12,000,000 Water Improvement Program**
- **Addition to the Combustion Turbine Electric Generation Unit**
- **Implementation of the Sewer Improvement Program**
- **Sale of Revenue Bonds for Departments share of cost for WIP and the SIP**
- **Four of five contracts completed on the separation of storm and sanitary flows in the Downtown and Westside areas of the city**
- **32,000 gas, electric, and water meters read each month**

1982-1983

- **Appeal filed in the “Town of Lebanon Tax Case Decision” before the Connecticut Supreme Court**
- **New high-pressure sodium vapor street lighting and complete underground electric facilities installed around new Courthouse**
- **Spring flooding conditions had the severest impact of the Treatment Plant since the new plant was constructed and put on line in 1976**
- **Payroll checks were issued to an average of 188 employees, which amounted to \$3,689,415**

1983-1984

- **Year designated as a “year for industrial growth”**
- **Norwich Industrial Park fully serviced by the NDPU**
- **James F. Burns, Transportation District Engineer, Bureau of Highways, State of Connecticut recognizes the “contribution and excellent spirit of cooperation of the NDPU” during the reconstruction of the RT 32 and 82 project**
- **Bean Hill substation expansion completed and put into service to better service the customers of the NDPU**
- **The Gas division sent out 1,020,095 MCF of gas for an increase of 11.8%**
- **Industrial and domestic wastes delivered to the Treatment Facility exceeded 5.5 million gallons- a 30-fold increase over the previous year**

1984-1985

- **A suit against the Town of Lebanon for refund of Property Taxes and interest paid for the years 1974 through 1978, inclusive**
- **A suit against the Town of Lebanon challenging the Property Taxes for the year 1983, and any necessary amendments or suit for future years**
- **Agreement with the State of Connecticut Department of Environmental Protection for the installation of a Rain Gauge at the Deep River Water Purification Facility**
- **Approval of a 15% Surcharge on Water Bills for all customers connected to the NDPU’s Water System, effective November 1, 1984**
Authorization for the payment of \$11,561.80 to the Town of Colchester for property taxes based upon assessments appearing on the Grand List of October, 1980. Also the payment of \$28,739.50 for property taxes for the years 1981, 1982, and 1983.

- **Intensified efforts in the areas of the Safety and Accident and Loss Prevention resulting in the high of 583 lost work days in 1981 to 160 lost-work days in 1984**
- **New gas customers included: Atlantic Packing, Leiser Sound, American Ambulance, Thayer Building, and Frito-Lay**
- **The Charles W. Solomon Water Filtration Plant processed 1,543,816,100 gallons of water.**
- **195 Residential Energy Conservation Audits were performed**

1985-1986

- **Electric and natural gas billing charges were reduced by 1% for all residential customers**
- **A contract was awarded for the Cleaning and Cement Lining of the 12-inch Taftville Transmission Main in the amount of \$275,000**
- **Downtown Lighting and Underground Project completed except for relocation of some police call boxes and traffic signals**
- **Gas send outs increased by 9% to total 1,160.048 MCF of gas**
- **The Hollyhock Island Wastewater Treatment Plant received 1,619,600,000 gallons of wastewater and removed 85% of the pollutants. Since most of Norwich's collection system consists of combined sanitary and storm sewer piping, rain water runoff was a significant portion of the flow. 421,000,000 gallons were piped in and 5,000,000 gallons were trucked-in wastewaters.**

1986-1987

- **The Gas Water Heater Rental program was approved**
- **The preliminary siting and cost data for the demolition and reconstruction of the buildings at the South Golden Street Plant in order to accommodate the consolidation of the Water and Sewer Division personnel currently located on Hollyhock Island was endorsed by the Commissioners**
- **Authorization to perform the required studies surrounding the proposal to install a fish ladder on the Greeneville Dam at a fee not to exceed \$32,800**
- **A trial study to evaluate composting of Norwich and neighboring wastewater treatment plant residuals provided favorable results**
- **120 pre-1900 sewer frames were replaced so as to standardize all sewer manhole covers and frames**

1987-1988

- **Authorization to complete the preliminary and final phases of the extension of water service to the Occum area at a cost of \$125,000**
- **The Commissioners voted to inform the Downtown Development Program that the NDPU would install and remove the Holiday lighting at no cost in the areas of Main Street, Franklin Street, lower Broadway, and Courthouse Square. It will be reviewed on a yearly basis**
- **The Commissioners approved a 25% across the board increase in the water rate**
- **The Commissioners approved the request from SCRRA to provide water supply to their incinerator project on RT 12 in Preston**

- Two major Cleaning and Cement Lining Water Main Contracts were completed equaling 5.75 miles of transmission lines
- Improved operating procedures allowed the Sewer Treatment Plant to operate as a one-shift five-day week manned facility- with a half-day Saturday staffing, reducing staffing from a seven-day-per-week, one shift staffing leading to a significant reduction in staff. The previous level of 10 operators had been reduced to six

1989-1990

- The commissioners voted to approve a request from Riley Energy Systems of Lisbon, Inc. and the Regional Landfill Development of Lisbon, Inc. to provide water service to their proposed Resource Recovery Facility in Lisbon
- The General manager was directed by the Commissioners to forward a letter to the City Manager indicating that the NDPU considers; Fairview Reservoir, Bog Meadow Reservoir, and Taftville Reservoirs Nos. 1, 2, and 3, to be surplus properties and be offered to The Connecticut Department of Environmental Protection and the Thames Science Center to manage
- The Commissioners ratified the action of the General Manager to approve payment of \$12,000 to the Providence & Worcester Railroad for the repair of the grade crossing located at the Roath Street gate
- The contract for the Occum Water Extension-Water Storage Tank was awarded in the amount of \$663,000
- The Commissioners voted to adopt the updated version of the Residential, Commercial, and Industrial Termination Procedures
- The Commissioners approved a construction of a moderately-sized water tank on Yantic Lane as a safety precaution should the existing Yantic Lane pumping station fail
- Extension of a public water supply to Mohegan Community College and Kelly Junior High School to substitute for the limited existing wells
- System Peak Load of 55,615 KW occurred July 17, 1989
- The Sewer Division personnel responded to approximately 1,200 Call-Before-You Dig mark outs and operated 17 pump stations

1990-1991

- The General Manager authorized two requests to study the groundwater of the Norwichtown well and also a study of the Fairview, Bog Meadow, and Stony Brook Reservoirs in order to determine which reservoirs should be developed for water supply purposes
- Following a request from the First Selectman from the Town of Preston, the Commissioners voted to extend the water service on RT 12 from the end of the new main at the American Ref-Fuel Plant to approximately 110 residents of the Drawbridge/Happyland section of Preston
- Cost savings from the NDPU Reorganization amounted to \$1,947,200, reducing the number of employees from 189 to 145
- The Commissioners, after lengthy discussion, authorized the General manager to prepare a "Request For Proposal" to select a consultant to study the feasibility of the NDPU providing cable television service as requested by the Norwich City Council in their resolution

- **The Commissioners voted to proceed with the development of the Stony Brook Reservoir as the NDPU's secondary source of water supply with the testing of a factory-built water treatment plant to determine what technology will be best suited to treat that water at Stony Brook Reservoir**
- **The Commissioners approved the awarding of bids for various aspects of Building #1 renovation work at South Golden Street for \$422,678.00**
- **A presentation was made to the Commissioners on the Licensing for the Greenville Dam requirements. The license prescribes a schedule for construction of a fish passage to be operational by April 1, 1996**
- **The peak load of 56,084 occurred in July, 1991, setting a new all time peak**
- **The NDPU planned the development of the Stony Brook Reservoir as its next water supply. The basic philosophy of this development follows: The construction of an economical satellite plant with minimal amenities: i.e., a basic water treatment facility, electrically monitored, which would be visited regularly, but no full time staff would be assigned to oversee its operation.**

1992-1993

- **The FERC issued a new license for the Greenville Dam**
- **The fish passage will cost approximately \$2,000,000, financed by a Bond Ordinance placed on the November, 1993 ballot**
- **The cost of the Utility for the upgrade at Stony Brook Reservoir to be \$750,000 Natural gas conversion of two NDPU vehicles completed**

1993-1994

- **The finalized version of the contract for the funding of the Greenville Dam Fish Passage between CMEEC and the NDPU was approved by the Commissioners**
- **The plans for the development of proposed recreational facilities of Taftville Reservoir #1, locate on Harland Road approved by the Commissioners**
- **A request from the City of Norwich to expand the Howard T. Brown Memorial Park and relocate fifty-six parking spaces from the NDPU Parking Lot adjacent to the Park to alternate locations at the Booth Lot and the Market Street Parking Garage was approved by the Commissioners**

1994-1995

- **The bid was awarded for the Greenville Fish Passage Construction**
- **The City of Norwich is designated "Clean City" by the Federal Department of Energy**
- **The NDPU is organized into three Divisions: the Electric Division; the Gas, Water, and Sewer Division; and the Administration Division**
- **The Water/Sewer Services is responsible for the operation, maintenance, and repair of 145 miles of water mains, 94 miles of sanitary and combined sewer mains, 10 miles of sewer force main, 26 pumping stations, 3e water tanks, as well as fire hydrants and services**

- **The Departments decision-making and cost control includes involvement by all employees. “This involves encouraging and supporting employees “on the ground” to make the necessary decisions to get the job done, with better service for our customers.”**
- **Customer First initiatives for the allowance for Conservation Programs**
- **“Our goal for the upcoming year is to eliminate “passing the buck” within the NDPU. We commit to insure that the first contact is the person who gets the problem solved or answer the question.”**
- **The NDPU is encouraging all of its employees to become involved in community-based organizations, and to bring the NDPU officially into their activities where we can be of help. The intent is to shift the NDPU from a reactive community position to a leadership position on community issues and projects.”**
- **Up-date of the NDPU:**
 - The City of Norwich owns and operates its own gas, electric, water and sewer system through the department of Public Utilities. The NDPU serves approximately 17,800 electric customers, 7,200 gas customers, 9,400 water customers and 5,500 sewer customers while employing 137 employees.**

1995-1996

- **The Commissioners approved the purchase of property located at 175-185 North Main Street for the development of a Customer Service Center**
- **An Electric Distribution Agreement between the City of Norwich Board of Public Utilities’ Commissioners and the Mohegan Tribal Authority for the delivery of electric service to the Mohegan Tribe Casino site**
- **The Commissioners authorized the effort to assist in the form of a grant to the NDPU for the upgrading of the bridge that crosses the canal in the Greenville section of Norwich at the Atlantic Packaging Corporation site**
- **The Customer Satisfaction’s initiatives includes: reducing residential past due utility accounts through the use of cooperative efforts with our customers in the use of budget planning and other tools**
- **Through our new billing format, we will be looking to improve the information flow to customers so that they may better plan their utility purchases**
- **The NDPU continues to work with the City Council to devise a plan for the installation of sewers in Nordon Village area. The NDPU is committed to finding an affordable solution**

1996-1997

- **The NDPU celebrated the opening of the new Customer Service Center on North Main Street**
- **Dedication of the Greenville Dam and Fish Lift was on Friday, May 9, 1997. State, Federal representatives were present as were The Mohegan Tribal Authority, Trout Unlimited Environmental Group and the U. S. Fish and Wildlife Department**
- **Eight areas in the Organizational Values aspect of the NDPU were explained:**
 - **Customer Focus**
 - **Fiscal Responsibility**

- **Empowerment**
- **Quality Performance**
- **Accountability**
- **Positive Workplace**
- **Community Leadership**
- **One NDPU**

1997-1998

- **Major projects:**
 - **Natural Gas Vehicles**
 - **Alternative Fueled School Buses and Clean Cities Program**
 - **Water Main Repair – Bozrah**
 - **Water Supply Plan**
 - **Wastewater Sludge Disposal**
 - **Personnel**
 - **Telecommunications**
 - **Mashantucket Pequot Gas Pipeline**
 - **International Paper**
 - **Fleet Management**
- **The NDPU agreed to build a 10-mile pipeline to the Mashantucket Reservation which will be used as an energy source at the Foxwoods Resort Casino and at the residences on the reservation**

1998-1999

- **The General Manager attended a ceremony at the State Capitol in Hartford where four Connecticut Municipalities accepted six Ford Ranger Electric Trucks, the first commercial-use electric trucks in Connecticut. Norwich and Groton received two each, and Jewett City and South Norwalk received one each.**
- **The Commissioners authorized the purchase of the property located at 195 North main Street**
- **Former Commissioner H. Downer Johnson, Jr. who died on March 3, 1999, was remembered for his dedication and long years of service to the City of Norwich Department of Public Utilities. He was a major force in the defeat of the August 11, 19059, Referendum wherein the Connecticut Light and Power Company proposed to purchase the NDPY from the city.**
- **Former Commissioner Leonard D. Royce, who died on March 29,1999, was remembered for his dedication and long service to the NDPU. He was instrumental in the construction of the Fish Ladder at the Greeneville Dam, the development of the Stony Brook Reservoir as the second Water Filtration Plant, and in his support of the Norwich Community Development Corporation, Inc. “Leonard D. Royce exemplified the tradition of Public Service and represented the Citizens of Norwich as their able trustee.”**

2000 – 2001

- **The Commissioners unanimously approved the Unit Contract for the Sale of Capacity and Associated Energy of the Norwich Combustion Turbine Unit**

- **The Commissioners approved an agreement between the Municipal Gas Authority of Georgia, The Mashantucket Pequot Utility Authority, and the NDPU for natural gas for the reservation**
- **The NDPU lowered electric rates by 6% for all NPU customers in September, 2000**
- **Contributed \$4,463,400 to the City of Norwich's General Fund for the fiscal year 2000-2001**
- **Chosen as the year "2000 Industrial Tree Farm of the Year" in recognition of the professionally prepared forest management plan established by the NDPU 22-years ago at the Deep River Reservoir**
- **Provided continued educational outreach through tours of the water treatment plant, fishlift, and hydro facilities for over 25 groups of Norwich school children**
- **Celebrated Drinking Water Week by sponsoring a performance of the National Children's Theater at each school within the City of Norwich, and provided water bottles to every child**
- **Supported the "Walking Weekend", "Harbor Day", "The Rose City Challenge", the Dime Bank's Striped Bass Tournament, and "Winterfest"**

2001-2002

- **The NDPU remained committed to the Mohegan Tribe's utility needs**
- **Operating Revenue for gas: \$13,432,800**
- **Operating Revenue for Electricity: \$30,842,000**
- **Operating Revenue for Water: \$4,752,000**
- **Operating Revenue for Sewer: \$3,792,500**

2002-2003

- **The current status of Yantic Lane Water Tank siting was discussed, including information regarding the consultant**
- **On September 24, 2002, Board Meeting, the Chief of the Yantic Fire Department expressed his support for the installation of a water tank in the Yantic Lane area, and, further, that the Yantic Fire Department will go on the record stating their support for the elevated water tank for reliability.**
- **At the March 11, 2003, Board Meeting, the Commissioners voted to eliminate the fire protection charge in the amount of \$238,160, thereby reducing the City of Norwich's 2003/2004 budget by that amount**
- **The Commissioners also approved the final proposed Fiscal Year 2003/2004 budget as amended to remove the fire hydrant charge of \$254,800.**
- **In keeping with the holiday season, the boat display was erected and maintained at Brown Park**
- **The NDPU worked with local police and Social Service departments to support the city's Neighborhood Watch Programs and the Safe Community Coalition initiatives**
- **The DPU responded to over 6,000 gas, electric, and water service calls within 24 hours of receipt and handled 100% of all emergency calls within 30 minutes.**
- **The DPU installed 30,600 feet of water main and 60 hydrants for the Yantic Lane and Mahan Drive system improvement project.**

2003-2004

- **The Commissioners moved to approve Norwich Public Utilities participation in the CMEEC Trust Agreement**
- **The Commissioners voted to approve the use of the rate stabilization funds to finance the construction of the Occum Fish Ladder Project**
- **The NDPU employees volunteered their time and the NDPU provided materials to ensure the success of city run events including the July 4th fireworks display, Rose City Challenge, Striped Bass Tournament, the Norwich Speakers Bureau, Winter Festival Parade, and lighting the streets with festive light displays.**
- **The NDPU is committed to providing the highest quality water to the community. The Annual Water Quality Report produced is the centerpiece of the Public Right-To-Know in the Safe Drinking Water Act.**
- **The NDPU responded to over 9,800 gas, electric, and water service calls within 24 hours of receipt and handled 100% of all emergency calls within 30 minutes.**

2004-2005 The 100-Year Anniversary

- **The Department provided mutual aid to municipalities located in the State of Florida damaged by hurricanes in September 2004. Lineman Frank Murkey, Philip Pouch, Stanley Stradczuk, and Charles Vanase volunteered to respond on behalf of the City of Norwich Department of Public Utilities.**
- **The Gas Division maintained 120 miles of main and over 7,100 services throughout the Norwich area.**
- **Over 5% of the power provided came from Green Power generated from three hydroelectric plants.**
- **2.1 billion gallons were treated and sent through 150 miles of main to 9,500 homes and businesses.**
- **Over 2 billion gallons of waste were treated and over 15,000 quality tests were conducted.**

2005-2006

- **John Bilda was appointed General manager**
- **The Commissioners moved to recognize retired General Manager Richard E. DesRoches' 30-years of service to the Norwich Public Utilities**
- **The Commissioners approved the water Supply Agreement with Wheelabrator Lisbon, Inc.**
- **A new educational program began with the "hiring" of TILLY, a tot-size talking utility truck that will present information to young school-age children on energy conservation and safety.**
- **For the eleventh year, Norwich Public Utilities continued to advocate for cleaner fuels by maintaining its position as a leader in the Department of Energy Clean Cities Program. Norwich maintained twenty-nine alternative fuel vehicles in its fleet.**
- **The state-of-the-art compressed natural gas fueling station opened in the fall of 2004 providing 24-hour a day, 7-day a week access for CNG-fueled vehicles.**

- **The Board of Public Utilities' Commissioners dedicated the Occum fish ladder to the Native peoples who inhabited the area, as it serves to restore the natural state of the river.**
- **Hydroelectric Generation – The General Manager updated the Commissioners on the status of the auction of Northeast Generation Services hydroelectric units. The Commissioners authorized the General Manager to investigate the acquisition of local hydroelectric facilities.**

2006-2007

- **The General Manager discussed with the Commissioners the need to work with engineers to ensure the dams at Fairview and Bog Meadows are in compliance to maintain a safe yield.**
- **The Department submitted the wastewater treatment facility upgrade plan to the State and selected a program manager to assist in developing a detailed design and implementation of the plans as well as assisting the Utility with applying for funding opportunities.**
- **The contribution to the City's revenue stream was \$5,385,400, reducing taxpayer burden by the equivalent of 3.25 mils.**
- **The Occum fish passage was completed promoting the reintroduction of indigenous species to the Shetucket River.**
- **"Tilly", our NPU ambassador appeared at numerous community events including National Night Out, Norwich Fire Department Open House, and the Winterfest Parade. She also presented safety information to school age children.**

2007-2008

- **The goals of the Utilities are: Happy, loyal customers; Exceptional reliability & emergency response; High-performing, fairly-treated staff; Competitive rates; cleaner environment; and a significant value to the community.**
- **25,000 compact fluorescent light bulbs (CFL) available to residential customers, equating to a savings of 2,007,500 kWh, or roughly enough to power 120 average homes for a year.**
- **The Utility developed residential energy analysis pilot program which served 68 low-income and residential customers.**
- **Fifteen Board of Education properties and eight municipal properties received an energy efficiency analysis which will result in reduction of utility cost for the affected properties**
- **Implemented a large Customer Commercial program (100 KW and greater) which offered 27 large commercial customers budget level energy efficiency analysis. Incentives were increased to 30% of the project cost over the course of the year.**
- **Implemented a pilot program for Small Commercial Customers (less than 100 KW) with 47 qualified customers benefiting from energy analysis and fixed incentives for lighting and refrigeration upgrades.**
- **Provided customers with information on key energy issues, conservation tips and energy management utilizing public service radio announcements and *Community Matters*, the NPU bi-monthly newsletter.**

- **NPU fully implemented geographical information system (GPS) technology. Utilization of this technology includes mapping of the electrical and gas systems to enhance response time to outages, improve customer notification and timely dispatching of crews.**

WATER

1867

- **Norwich establishes a Board of Water Commissioners**

1868

- **Completion of Norwich's first public water supply- Fairview Reservoir (Norwichtown)**

1912

- **Completion of Stony Brook Reservoir in Montville**

1929

- **Completion of Deep River Reservoir in Colchester**

1952

- **Norwich's Municipal Water Department transferred to the control of the newly appointed Public Utility Commissioners**

1974

- **Completion of the Deep River Water Treatment Facility (Dr. Charles**

1995

- **Completion of the Stony Brook Water Facility**

SEWER

1936

- **Construction of the city's first primary sewerage treatment plant on Hollyhock Island to serve only 3,000 customers.**

1957

- **Hollyhock Island wastewater treatment plant is expanded after instructions from the State of Connecticut Health Department.**

1971

- **Transfer of the city's sewerage facilities from the Department of Public Works to the newly formed Sewer Authority**

1976

- **Completion of the existing wastewater treatment plant on Falls Avenue**

2009

- **Upgrade and reconstruction to the 1976 installation to begin.**

Other Bulletin Articles of Interest

The history of the Norwich Department of Public Utilities must include some of the unique articles found in the newspaper because they represent the time and place of the utility in people's lives. One such person was Alderwomen Ethel V. McWilliams, a person of considerable influence in the politics of Norwich. Two articles stand out as a representative statement of Mrs. McWilliams.

Dec. 1, 1965

'Clean Up Utilities Building'

Mrs. Ethel V. McWilliams, former City Council president suggested Wednesday night the city government take the initiative in beautifying Norwich.

As a starting point, Mrs. McWilliams proposed the Norwich Public Utilities building on Shetucket Street near the Laurel Hill Bridge.

"It's horrible," she said. "The City of Norwich could wash it down and clean it up and have a beautiful building right on the corner."

"If we want to clean up the city," Mrs. McWilliams said, "the city government should begin it.."

March 14, 1973

Caption "Somebody will hear about this!" were the words spoken by Mrs. Ethel McWilliams as she emerged from the City Hall elevator after being held captive for 40 minutes. The rescue unit from Central Headquarters worked for a half hour with crow bars but to no avail, until Purchasing Agent Malcolm Quinlan summoned the elevator repair service.. In the meantime, Mrs. McWilliams was offered solace from concerned persons in the hall. "I suppose Grimshaw turned off the electricity!" Mrs. McWilliams said and smiled as firemen lifted her from the half landed elevator.

The First Lady of City Hall, as she was known when she governed the Council, took it all with a sense of humor, and, as she sat down for a glass of water said, "There's a lot of dirt in the corner of that thing!" Walter Wadja, Public Works director, said a paper clip caused the malfunction.

Jan. 28, 1977

The Department of Public Utilities will launch a media campaign to alert customers to energy saving practices.

The Commissioners Tuesday night voted unanimously to allocate some \$8,250 for TV, and newspaper advertisement programs to provide customers with the information.

General Manager Robert E. Grimshaw said there “are many things the customer can do that don’t cost anything, like close their drapes at night and open them during the day when the sun is out.”

The program which would cost the department about 37 cents per customer, would utilize advertisements prepared by the American Public Power Association. The cost of the ads, Grimshaw said, would be about \$300, while radio time and newspaper ad space would account for the difference.

Member Harry Jackson agreed with the proposal, maintaining that such a program “makes sense.”

Feb. 2, 1977

Donations from Utilities A Big Boost for FUEL

Lehigh Petroleum Company, Dahl Oil, and Norwich Department of Public Utilities have been the forefront of contributors to the Norwich Area Chamber of Commerce drive to raise funds to pay heating bills for needy area residents, the Rev. David Cannon, co-chairman of the chamber’s human services committee, said on Tuesday.

Those utilities operations, he said, “were among the leadership” in donating money to the chamber drive, called For Utilities Emergency Lifeline (FUEL).

June 29, 1977

Bermuda Insurance Firm Gets Nod for Utilities Coverage

Faced with a Friday deadline of obtaining liability insurance, the Board of Public Utilities Commissioners Tuesday night voted unanimously to pay \$65,000 for \$1 million in coverage to a Bermuda based firm.

The board also authorized PUC General Manager Robert Grimshaw to create a reserve fund for the \$100,000 to cover self-insurance protection or the deductible amount.

The board’s previous insurer had withdrawn from the municipal market, and other firms aren’t interested in filling the void...

August 24, 1977

Feds Nix City Request For \$1.4M Sewer project

The federal Economic Development Administration (EDA) has brushed aside the city’s request for \$1.4 million in federal funds to extend sewerage lines in the Salem Turnpike area.

Norwich Department of Public Utilities General Manager Robert E. Grimshaw told the Sewer Authority Tuesday night that the application was nixed by the federal agency because the project was not a priority item.

The city won't get sewer funding as long as the police complex remains the high priority, he said.

Grimshaw said that the only way the project could get funded is if the police complex doesn't "use up all the money," or if, for some reason, that project is rejected.

Memories

Memories are an important part of a company's existence. The Norwich Department of Public Utilities has many retirees with fond remembrances of their working past. I had the opportunity to interview five retired employees of this organization: Arthur LeBlanc, Charles Rossoll, David Barry, John 'Beansie' Angelo, and Dottie McCully. All interviewed were asked similar questions concerning their involvement in the organization.

Arthur LeBlanc:

Art was hired by the sewer plant as a maintenance mechanic. When the operation was transferred to the NPU in 1972, he was asked to continue by Mr. Grimshaw. Arthur enjoyed working for Mr. Grimshaw whom he described as the best administrator he worked for. He was tough but evenhanded and had the pulse on the department. Art's greatest success with the department was in the upgrading of the sewer plant from primary to secondary. As in new installations many internal problems had to be squared away. The EPA came down on the plant, but when they saw the plant in operation, they were pleased and stated that it was the best plant of its size in New England. When this happened, Art said that the money tree from the Federal Government opened up and the maintenance department received \$100,000 worth of equipment.

Art mentioned that good people were hired when the upgrade took place. They advertised but no one applied, so he felt it important to hire young people out of high school so they could be taught the proper way of doing their work. The

Waste Water Operator Association of Connecticut was utilized to help train the new workers. This involved using the Sacramento State College System program for Waste Water Operators. Plant operators from Norwich, Jewett City, and Groton all received state certificates as qualified operators.

Areas of weakness he found in the plant were the mechanics of the plant operations. The 1970's design was an energy hog. The three sludge thickener centrifuges, each having 125 hp motors, had to run 24/7 in order to keep up with the waste generated from the sewer system. At the office one day he and Dave Barry came across a rotary filter- too simple not to work, which only used 7.5 hp for 7 hours daily. What a savings in the operation. The rotary filter was being brought to Groton for a demonstration and they went to see it in operation. Much of the work was done in-house to cut down on cost for the department.

One of the main problems the system had at the plant was the added water to filter during rainy periods. The state Water Resources Commission, now the EPA stated pushing for the separation of sewer and street run-off culverts. Art called the state to complain that it was the state that pushed water into the system off of state highways. A cease and desist order was suggested. Art went to Dick DesRoche and Bob Grimshaw about it. Art and Dick went to the state, but found out there was no funds for this. The EPA came in and because of the interaction with the state, the EPA wanted to make Norwich a Model City. Over the lifetime of this action, Norwich received \$20 million dollars to help pay for it. Art never saw it completed but did see about 70% done. Some of the major changes occurred with the pumping station at Rose Alley where 3.5 million gallons could swell to 20 million gallons in 30 minutes of a heavy rain, with much of it ending in the river untreated. Major changes came about, much done in-house.

During his last three years, Art worked in the area of training and handling safety. He said the key to safety was the constant need to retrain. Loss of time due to accidents dropped. Art left the Sewer Department in 1989 when he retired.

Charles Rossoll

Oct. 12, 1973 Charles Rossoll Named DPU Senior Engineer

Charles F. Rossoll, 47, of Lincoln, N. H., has been appointed senior electrical engineer in the Norwich Dept. of Public Utilities.

The Norwich native was selected from among eight applicants seeking the \$16,000 position. The appointment is based on a recent examination authorized by the City Council and Utility Commissioners.

Rossoll is a graduate of Norwich Free Academy and Northeastern University with a degree in electrical engineering. He is scheduled to begin work on October 29.

Charlie was born on the West Side of Norwich. He attended Norwich schools such as Elizabeth School and NFA. He entered the Navy where he learned the electrical trade and worked on Destroyers as an electrical mate. He married his wife after coming back to Norwich after his Navy experience and worked at the Ponemah utility in Taftville. He attended Northeastern University. He began moving around New England working at various utilities mostly located at paper mills. At the last paper mill he work for, the manager told Charlie to start looking for another position because the mill was having difficulty with down-stream pollution and could not satisfy the EPA. Arriving back in Norwich in the 1973 proved to be a challenge due to the amount of changes needed to the electrical system. Most of the work was done in-house so as to save the utility money. As the utility's electrical division manager, he reorganized the general reporting procedures, streamlining it for better control and oversaw the changes in the Taftville electrical grid. He began looking into solar cells, but found them very costly and unreliable due to the weather factors in Norwich. Even if it did prove a reliable thing, electrical plants would still have to on the ready list at all times. Wind power was considered, but the cost of installation and its reliability in a New England setting was its undoing. Charlie mentioned that one person had a windmill, yet it never generated enough power to send any back into the general system. He retired in 1998 and looking back, he enjoyed his work and the people he came in contact with. One thing Charlie remembers doing in saving the old annual reports from the beginning of the municipal utilities origins. The general manager wanted to throw out all old records, thinking that they were not necessary in the present day.

He also recalled hectic times during ice storms and hurricanes that caused a burden on the systems. When he came, the Curtis -Wright Combustion Turbine was going through its test phase, yet the steam plant had to man the boilers and keep the

steam turbines at the ready. When the “Jet” came on line, the old steam plant was dismantled and sold to a New Mexico utility.

He once played a trick in a rookie watch engineer. During a power outage, he called the plant and talked to the rookie engineer about the location of the outage and asked if the engineer could send a utility worker to reset his electric clocks. The watch engineer replied, “They do that?” The chief watch engineer came on the phone to talk and recognized Charlie’s voice... who said to Charlie, “Trying to give this guy a hard time?”

David Barry

Dave was hired in April, 1970 following working as a plumber for Berry Plumbing. He was hired in the sewer department as a laborer, but the government had classes for plant operators, which he took and graduated second. He could have graduated first but another person had the same score. He became the sewer plant operator, but ended up going to work with Humphrey Leary at the Water Division. Dave became the general foreman and finally the sewer superintendent when the new secondary sewer plant went on line. He was concerned with the poor performance of the sludge thickener and the massive power it used. Looking through a trade magazine with Art Leblanc on day, they came across an item that was too simple not to work. They saw the demo at Groton and felt they could use it in the secondary process. The old centrifuges had to be torn down every six months for refit, taking time which could be put to better use. The installation was installed in-house which ran five years trouble free. The rollers on the bottom of the screens had to be replaced- also done in-house. The new device was placed in the three-story incinerator house, which was poorly designed, burning 5 ½ gallons of oil an hour, which had to be heated for a day before it could be used. He also pointed out that the design of the building was not really correct. The only entrance to the roof was through the electrical room and if there was a fire, the person would be unable to get down. This was changed. He pointed out that the emergency generator was also placed on the third floor, making it much more difficult to get to for maintenance and scheduled tests.

Another item Dave talked about was the startup of the primary digester. The engineers were ready to start it, but Dave looked in and saw a whole staging still set up. The engineers had to cut it up to get it out of the digester.

Dave talked of the interesting people who worked at the plant. He told the sad story of hearing on his radio that Lester Smith and Paul Travis found a baby in the sewer on Laurel Hill.

The de-gritter was a thing of constant wonder. The waste had to be cleaned of grit and in this grit, workers found many toys such as rubber duckies, money, dentures, and even a diamond ring.

Dave was also in the Water Department at the time of the construction of the Deep River Reservoir upgrade. He would go out on water related calls with Humphrey Leary. Many of the pipes in Norwich were never found on maps because you could not find or use a draftsman. Humphrey told men where to dig because he had the knowledge from when he dug things up. Dave told of gunniting the old sewers on Franklin Street and Chestnut Street because the concrete was missing or had no concrete and was just stones piled upon each other.

Dave was involved with the water end of the building of the Norwich Industrial Park, which had many problems. Many of the water pipes were laid incorrectly and had to be changed or certification could not be issued. He told the contractor that if it was not changed, no water would go into the park. It was quickly resolved.

The Norwich Industrial Park:

Dave was in charge of the sewer aspects.

He talked with the engineering group- McGuire, to put in by-pass due to the large amount of flow during rainstorms. He wanted less to flow into the sewer treatment plant and the normal run-off of the streets' catch basins could easily go into the Yantic River or other rivers as shown in Taftville where the brooks went into the river. Hunter's Brook in Taft Station, which is pure water, went into the river. Dave said that many of the older trailer parks had problems with their leaching system due to age, small area to allow water to evaporate. He indicated that grey water from clothes washers were the worst thing you could do to a septic system because of the soap carried into it created a sludge after a while that hurt the system.

Dave told of the water hammer effect causing problems at Deep River Reservoir that caused the 30 inch pipe to rupture. The cause was a 175 horse power pump that would stress the cemented pipe. Once a new valve configuration was installed, the problem ended. He thought Deep River should have had installed during the up-grade a 5-8 million gallon tank where the water could be filtered and then pumped into it for a greater gravity fed system rather than having to rely on the on/off pumps. He felt the Fair View Reservoir was placed in the wrong place and should have placed on top of the hill for greater pressure. He explored places for another reservoir to help increase the quality and abundance of Norwich's supply such as Camp Moween's brook, a small brook, but a huge flow and the water quality would have been just as good as Deep River.

Dave told of problems with geese at Deep River and their effect on the pre-filtering of the water. Once the water was purified, there was no problem, but the geese caused a greater expense in purification. One day he was called by the staff at Deep River. A deer was dead on the ice. It had to be taken off or problems would arise to the water quality. He called a worker to go to his home and bring his 12 foot 'john boat'. A worker took the boat, tied a rope to Dave's truck, and walked out onto the ice, while hanging on the boat for safety. The rope was tied to the deer's head and it was pulled off without incident.

Dottie McCully:

Dottie began working for the Department as an assistant to Mrs. Maurice, the Executive Secretary to Mr. Robert Grimshaw. When Mrs. Maurice became too ill to continue working, Dottie took an exam and became the Executive Secretary of Mr. Grimshaw, who she got to know and understand his addenda for handling commissioners' requirements and situations. He required that all reports be exact and he wanted no complaints from the commissioners. When Mr. Grimshaw left for another position, Mr. Peter Herou was hired. He relied on Dot to continue as before and even was asked to baby-sit his children on occasion. Dottie's memories told of the family concept of the Department.

After a few years, Mr. Herou left and Richard DesRoches became General Manager of the Department following his tenure as sewer and water superintendent. He had worked earlier in the building of the Deep River Treatment Plant and had

knowledge of the Department. She also noted that Charles Rossoll and Walter Lamb took Dick under their wing because of their expertise in the electrical and gas divisions.

She worked for the Department for almost 34 years and when Grant Weaver, then water and sewer manager, wanted to get involved with the education of the school children of Norwich and the interplay with the utilities, When Mr. Weaver could not continue guiding tours of the facilities, Dottie was called upon to lead them with the school children. They became known as a great field trip. Areas visited were; the electric control division at the South Golden Street facilities, the 8th Street substation behind the old Mr. Big's Department Store, The Greeneville Dam Fish Lift, Occum Hydro Power Station, and after a lunch at McDonald's, Deep River Reservoir.

She enjoyed working with the excellent division head; Walter Lamb (Gas Superintendent), Charlie Rossoll (Electrical Superintendent), Humphrey Leary (Water Superintendent), Grant Weaver (Engineer), Mr. Burdi, and David Barry (Sewer Plant and Sewer Superintendent). She still attends monthly breakfasts at the Taftville Family Restaurant where DPU retirees have breakfast, swap stories, and enjoy friendships from years gone by.

John 'Beansie' Angelo

John, or "Beansie" as he is also known, was in charge of the sewer maintenance and construction for the NDPU. He began his career in the Public Works Department following his military service. He became a heavy equipment operator for the Public Works Department, doing water and sewer construction and repair. He began working for the NDPU following the Sewer Department becoming part of the Utilities. He continued doing this up until his retirement in the 1980's.

When Richard DesRoches was hired to take over the water and sewer divisions, John helped him with his knowledge of the mains, having dug or worked on most of them in his long career. The best job he had was the separation of the main sewer line coming down Franklin Street which began as a brook. He would have to take an ax into this culvert to protect him from the rats that inhabited the space underground. He'd get his high boots and follow the waste water pipes and the storm water sections.

The worst time he had was assisting in finding a baby which a sailor had placed in a sewer manhole after the sailor killed the baby's mother.

A job he found difficult was supervising the construction of sewers along Market and Water Street. Where ever they dug, they found pilings that had been buried when the streets were developed years before. The pilings were every few feet and in good shape. They had to be cut so that the sewer could be placed there. "Then we had some problems, an operator was digging with a backhoe and hit a metal object. The next thing you know, a canon came up. The operator placed it in his truck and was going to take off. We stopped that and got it back. It was only a small canon." The canon in question is now located at Slater Museum.



A job he didn't like was the lining of a sewer pipe in the Norwich Industrial Park. The construction company hired their own inspector and the workmanship proved to be lacking. In order to have it pass inspection the Department had to butt-weld plastic pipe, small in diameter and pull it over 1,000 feet, stopping at changes of direction to dig down, and continue with other pipes. It was a long process that worked well.

John, after retirement went to work for engineers overseeing various projects such as the laying of the pipes on Laurel Hill Avenue to the garbage to

energy plant. John did say that he enjoyed his time in the department and the good workers.

Resources

A. E. Fitkin Buy-out Proposal

Annual Reports 1905-1950

Board of Water Commissioners Report 1870

Board of Water Commissioners Report 1878

Board of the Board of Water Commissioners Report 1899

‘Business Development’ Norwich Public Utilities Norwich Gas and

‘Community Matters’ Norwich Public Utilities Electric Department

Century of Growth Pt.1 Norwich Builds and Prospers Pt. 2

Connecticut Municipal Electric Energy Cooperative Annual Reports

Connecticut Light and Power Buy-out Proposal

Eastern Connecticut Electric Company Buy-out Proposal

**Extension of Taftville High Service Water System to Occum Area
March, 1987**

**Feasibility and Planning Study, The Historic Mills or Norwich,
Connecticut**

Guns of Norwich Newsletters

Hartford Times November 15, 1960

Norwich Board of Trade Exposition 1906

Norwich Bulletin articles 1860-2009

Norwich Department of Public Utilities Annual Reports 1951-2009

Norwich Department of Public Utilities Fish Lift Brochure

Otis Library Reference Department

Plan of Development, Norwich, Connecticut 1989

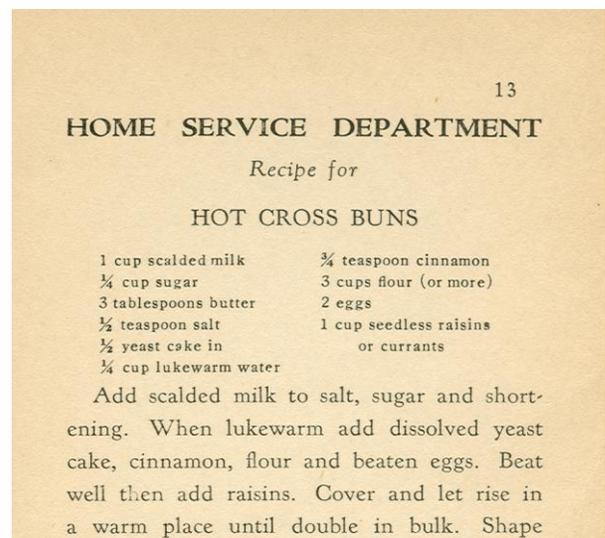
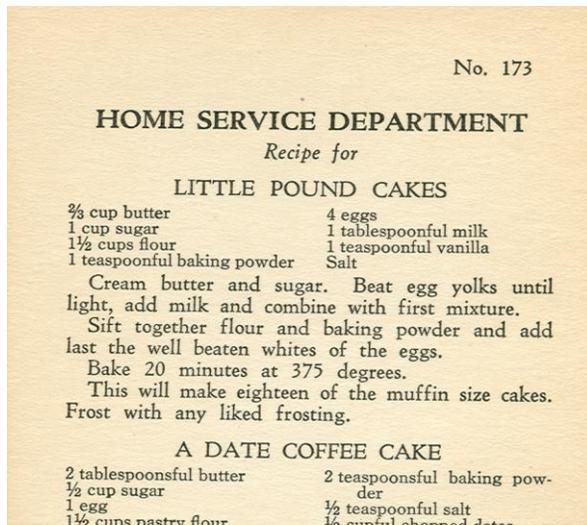
Reprint from Water Engineering & Management July 1984

**State of Connecticut Public Document No. 56 19th Annual Report
of the Public Utilities Commission**

WICH 1310 Editorial

**Home Service Department
Norwich Gas and Electric Department**

During the 1930's there was a major push to have customers switch to gas for their cooking needs. Many home still used coal for heat and cooking in their kitchens. The following are examples of the services provided by the Department. As you paid your utility bill, you were given a recipe card. Classes in cook with gas were also a popular way for the Department to add customers and educate customer in the proper use of gas.



Appendix of Income and Profit for Gas and Electricity for years 1905-1930

Fiscal Year	Gas			Electric		
	Total Income	Profit	Metered Gas Customers	Total Income	Profit	Metered Electric Customers
1905	\$47,668.92	\$10,554.05	1,669	\$39,409.78	\$9,000.81	675
1906	\$48,339.82	\$7,606.34	1,897	\$63,364.78	\$12,365.19	852
1907	\$49,410.47	\$7,215.10	2,087	\$74,600.81	\$15,463.22	952
1908	\$51,769.93	\$7,663.01	2,227	\$84,383.60	\$19,323.14	1,023
1909	\$50,119.94	\$4,078.64	2,367	\$82,819.82	\$15,367.23	1,160
1910	\$49,183.67	\$6,777.47	2,449	\$89,421.07	\$19,912.72	1,395
1911	\$53,612.23	\$11,951.37	2,551	\$105,393.61	\$20,417.24	1,556
1912	\$55,017.93	\$12,765.04	2,731	\$113,167.92	\$28,253.88	1,795
1913	\$61,395.64	\$7,712.06	2,884	\$130,735.49	\$36,382.97	2,024
1914	\$67,146.56	\$3,887.00	3,070	\$133,472.30	\$41,744.00	2,362
1915	\$45,775.00	\$8,490.00	3,126	\$97,663.00	\$43,103.30	2,638
1916	\$65,907.00	\$5,207.00	3,309	\$135,121.00	\$40,859.00	3,017
1917	\$68,877.04	\$7,576.00	3,468	\$167,158.10	\$31,932.02	3,416
1918	\$79,718.54	\$98,088.23*	3,585	\$235,239.49	\$68,613.41	3,654
1919	\$103,755.96	\$9,653.01	3,618	\$304,274.99	\$90,165.30	3,924
1920	\$120,969.00	\$34,543.83	3,822	\$331,030.92	\$89,219.38	4,399
1921	\$152,037.86	\$17,938.00	3,874	\$345,599.33	\$111,264.26	4,797
1922	\$161,026.78	\$47,901.86	3,953	\$402,650.78	\$163,745.28	5,356
1923	\$183,206.76	\$50,595.57	4,142	\$479,175.44	\$185,008.10	5,942
1924	\$180,676.40	\$34,196.64	4,482	\$486,347.33	\$201,361.05	6,602
1925	Unknown Amounts	Unknown Amounts	4,600	Unknown Amounts	Unknown Amounts	7,006
1926	\$210,183.97	\$60,155.25	4,718	\$448,836.28	\$177,257.19	7,228
1927	\$222,253.36	\$71,421.82	5,882	\$486,132.70	\$210,888.97	7,439
1928	\$218,002.90	\$35,641.57	5,035	\$520,790.79	\$175,331.09	7,690
1929	\$254,617.43	\$42,061.80	5,261	\$555,577.62	\$266,518.27	7,740
1930	\$296,679.23	\$87,357.44	5,261	\$591,454.81	\$301,398.89	7,796
Totals	\$2,897,352.34	\$592,949.87		\$6,503,821.76	\$2,108,377.64	
*Deficit amount	-0-	This is the amount of profit after the paying of gas and electric service to the city for street/building lighting and gas service to public buildings.				

