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Where Can District Heating Be Applied?


This question is being asked repeatedly now that District Heating is growing rapidly in importance and interest. Although for several years District Heating has been carried on as a successful public service in cities of over a million population and in villages as small as Arcade, N. Y., with a population of fifteen hundred, the determining factor remains the same in principle. When the district considered has a sufficient aggregate and concentrated demand for heat to warrant the installation of a plant and distribution system, and can afford to buy steam at a rate adequate to care for items of operating cost, maintenance, depreciation, interest and profit, then that community may be considered a potential beneficiary of a District Heating utility, and looked on by the utility, industrial or other executive as a logical field for development.

While, beyond question, the congested business section of practically every city north of the Mason-Dixon Line (and many south of it) with a population of twenty thousand or more offers profitable opportunity for District Heating, there are thousands of smaller cities, towns, suburbs, and selected districts in cities where special conditions make this service particularly adaptable. A brief review of fundamental factors will show clearly how special conditions affect the situation.

The first requisite, a concentrated demand for heat, is well illustrated by the office-building district of New York City. Here within a dozen blocks can be found a heat demand greater than that of several entire cities. It is obvious that with a relatively small investment in an underground steam distribution system a tremendous market for steam is reached. In other words, the cost of installation of each lineal foot of main can be spread over so many thousands of pounds of steam sold each year that it does not seriously affect the price of the service. The carrying charges on the same underground line installed to serve the same number of smaller buildings widely separated would make the
of fair size and height. An engineering survey may disclose that a season's demand for heat by all the buildings in this area would approximate 100,000,000 pounds and that the probable requirement for the coldest hour of the season would be 65,000 pounds. This would make a nice "set-up" for a heating plant, providing the total cost of plant and operation did not impose too restrictive a rate schedule.

Another example is familiar to those who have observed recent tendencies toward apartment house grouping. In practically every large city today, one finds certain streets or districts claimed almost entirely by apartment buildings. These structures, serving as homes for thousands of families in comfortable circumstances, create a tremendous demand for heat. The common practice is to install separate heat generating equipment in every building and maintain an adequate staff to assure ample heat during winter months. Other fields awaiting only the creative touch of initiative may be found in the residential districts and suburban developments where the cities' substantial citizens buy or build their homes; homes of sufficient size and in such numbers that the handicap of excessive distribution investment (by reason of the distance between buildings) is more than offset by the individual heat load and the ability and desire of the owners to pay slightly more for the incomparable convenience, comfort and safety.

While these examples and many others hold within themselves latent possibilities for higher standards of living and unquestioned attractive returns to those with imagination, initiative, courage and capital to undertake them, each requires separate and individual analysis by those qualified to weigh all factors before the one best answer can be found to the question "how should it be done?" There are many professional engineers who have studied problems of this nature and at this stage their modest fees are insignificant compared to the value of their counsel.

To point to only a few of the matters for decision: Should a new central boiler plant be built? If so, where and what size? What type of boilers should be used and how equipped? Is there an opportunity of putting into service an existing boiler plant? What changes would be necessary? Can the station be used as an electric generating station with steam for heating as a by-product, or are greater economies to be effected by organizing primarily for heating and generating electricity as a by-product? If the latter, should provision be made for operating condensers during the non-heating season? Should the distribution system be designed for low pressure or high pressure, or should it provide an elastic combination? Should power and cooking loads be taken on for twelve month service or should steam be definitely shut off in summer? How much will the complete installation cost? How long will it require? What may be expected as gross and net income? Very sketchily, these are some of the questions. The correct answers will go far to disclose the desirability or otherwise of a District Heating plant and, if decided upon, will point the path to profits and a heating service of high merit.

Assume for a moment, that you are the manager of the electric utility in your city. Today you point with pride to the rising curve of your electric sales. Your plant efficiency is considered well above average. Your customers commend your service, and still you feel there are barren fields around your door, the cultivation of which would magnify your service to the community and add considerably to your net earnings. You have long considered the thousands upon thousands of dollars spent annually for coal to heat the dozen or so business blocks in your downtown district. You have an old boiler plant, now unused, but centrally located. A few thousand dollars would easily rehabilitate the plant and make it a fairly efficient steam producer. The plant itself has long since been "written off" so stands you nothing.

Now here is what you might do. A study by experts may quickly reveal that in your closely built area you can readily secure sale for all the steam you can generate for the maximum hours' needs. This, it may be shown, can be sold at a price which will assure you of the maximum return permissible by the Public Service Commission. Not only so, but by merely installing a turbine between boiler header and distribution system, your turbine
will act as a reducing valve and turn up a surprising number of almost cost-free kilo-watts.

Now, it may so happen that you buy your current on contract from your own or other high line. In this case you will be able to feed your by-product electricity back onto the line at a good price. Also, you might use it to care for your winter peaks and so buy on a lower contract rate. Another feature, novel, but not altogether new, if you buy on contract, you are almost certain to have fairly long periods during day or night when your load falls greatly below your contract level. By the use of electric boilers, which are extremely quick acting, you can save coal consumption on your heating boilers by making steam with the current which would otherwise be paid for but not used. This practice effected a saving in Winnipeg, Man., last year for the District Heating Department of $60,000. Wherever hydro current is used there is generally available a vast amount of very cheap off-peak power which during night hours can be most effectively used in this way.

Continuing our hypothetical example, if you got this far you would also find that with very few additions, if any, in your office, you would be able to handle this additional business; that with the services of a qualified District Heating engineer and an assistant assigned from your present staff, this considerable new revenue could be collected at an astonishingly low cost. As you got under way, other things, perhaps unexpectedly, would begin to happen. The department store, office building, hotel and some factories, which for years had operated their own isolated plants, would begin approaching you for service. Your ability to supply not only their electric but also their heat requirements would inevitably in due course bring them to you as customers for both heat and electricity. Occupying the position you do in this example, District Heating would undoubtedly hold a powerful appeal, and rightly so. Anything which performs a desirable service, is a benefit to the community and a profit to the operator, creates its own demand and justifies its existence.

In conclusion, it will be well to point out that concentricity of heat demand is a primary requisite of successful district heating, but that the availability of exhaust steam often raises a relatively small aggregate demand to a very profitable investment. Other factors of success appear in: the precision with which the design of plant and distribution system coincide with local conditions; the meter rate schedule which is applied; the applicability of policies adopted by the management; the experienced ability and interest brought to supervision, and of course the soundness of the financial structure which carries the burden of organization and operation.

In all of the problems which confront those investigating District Heating, whether it be the proposed extension of a present plant or an entirely new venture, the complete facilities and authoritative suggestions of the American District Steam Company are available. These founders, pioneers and counsellors of the industry are in an ideal position to tap thousands of sources of information, direct inquiries to the nearest specialists well qualified to assist in engineering surveys and otherwise perform an interested service, growing out of a profound desire to see District Heating take its rightful place in the field of public utilities.
District Heating as a By-Product of Industry
An Additional Source of Profit for those who avail themselves of the Opportunity

ALTHOUGH in the majority of cases the logical organization to operate a District Heating utility is the local electric corporation, by reason of its present plant, organization, personnel, nature of routine, favorable public sentiment, an established record of dependable service, familiarity with utility practices and requirements and its favorable affiliations, it often happens that an industrial plant finds at its door an unusual opportunity, which can with facility be turned to very profitable improvement.

In the larger industrial centers it is a common sight to see extensive areas closely built up with factories of various kinds. Each factory has its own boiler equipment generating steam for power, process and heating purposes. Each has its problems of coal handling, ash disposal, breakdown interruptions, boiler plant upkeep and expensive labor requirements. New buildings mean added investment in boilers and costly rearrangement of piping. Few plants are large enough, individually, to warrant the installation of the most modern and efficient pulverized fuel equipped boilers. Compared with such large up-to-date steam generators capable of prolonged operation at three hundred and four hundred per cent of rating, the efficiency of the average industrial boiler plant shows a terrific waste.

In a situation of this kind it is not difficult to appreciate the tremendous economies which could be effected by shutting down the score or more isolated boiler plants, producing all the steam required in one modern central station, and distributing this at 250 pounds pressure, or more or less as the maximum need may indicate. Each factory then could buy just the amount of steam required, paying its steam bills monthly the same as its bills for electricity and gas. The far-reaching advantages of such an arrangement are patent to any industrial executive.

This industrial District Heating plant may be undertaken by one of the larger factories in the district; it may, conceivably, be a co-operative plant or, being attracted by the considerable earning of such a plant, outside capital may finance and operate it as an independent enterprise.

Another application of District Heating to industry is exemplified by such concerns as Greene-Swift, Limited, of London, Ontario. In a previous issue of the ADVOCATE, an article appeared showing how Greene-Swift, Limited, manufacturers of men's clothing, have, within the past fifteen years, distributed steam from their factory boiler room to a constantly increasing number of customers. So worth-while has this business become to Greene-Swift, Limited, that they are spending this year over $150,000 on new plant and distribution lines in reaching out to double, and probably treble, the number of steam customers.

In Penn Yan, N.Y., a town of fifty-five hundred population, the Birkett Mills, Inc., has been carrying on a District Heating service for many
years. The commercial sale of steam to a large number of customers represents a considerable factor in their profitable operation.

La Salle & Koch, department store operators in Toledo, take care of a large part of their overhead from the revenue of steam sold. A cold storage and creamery plant in O'Neill, Neb., owned by Hanford Produce Company, the New Way Laundry Company of Everett, Wash., and Chas. D. Kaier Company, brewers and bottlers, of Mahony City, Pa., are other examples. In New York the Bush Terminal Company furnish steam from a central plant to several hundred customers.

Many other similar instances can be cited of industries turning their District Heating possibilities to profits, but it is unfortunate that more executives do not give thought to this scarcely worked mine of golden promise. The loss is not alone to those who are overlooking or neglecting their obvious opportunities, but to all those thousands of home and building owners who year after year shovel in tons of coal and carry out truck loads of ashes, and live, perforce, in fire-hazardous structures, when the exercise of sound business judgment on the part of some adjacent factory manager might so easily bring them comfort with economy, and convenience with safety — and all, with profit to industry.

District Heating as a by-product of industry is bound to advance at the double as appreciation of its profit possibilities becomes general. There are thousands of factories enjoying creditable earnings today but which, with the addition of available District Heating business, might add materially to their annual "net," while at the same time performing a laudable service to the public.

Tremendous economies could be effected by shutting down individual boiler plants and producing all steam in one modern central station.

The Engineer in District Heating Development

Adsco Maintains Separate Department to Co-operate with Engineers

There is, in the extension of District Heating, a tremendous field for the professional engineer. With utility companies, industrial plants, colleges, schools, hospitals, government and public institutions turning to many different applications of District Heating, the demand for professional engineering services is rapidly on the increase.

The need of experienced counsel is generally appreciated by executives considering any major installations of this character. How the engineer may benefit from these conditions and how his service may be of greatest value to his clients will be touched on in this article.

In any town or city where at present there is sufficient engineering work to profitably employ consulting engineers, there are almost certain to be present or future District Heating opportunities requiring an engineering analysis, report, design, specification and supervision. There are very few such towns or cities where, either in the town itself or somewhat removed, cannot be found some institution or group of buildings where central heating could be substituted for individual heating plants, with economy and a vast improvement in heating service.

A brief survey of the situation, followed by a discussion with the principals, has frequently resulted in requests for a full engineering report embracing possible operating economies, improvement in service, necessary investment and recommendations as to installation. We have intimate knowledge of scores of such projects developed in this way, since engineers in all parts of the country make generous use of our Engineers' Service Department, maintained expressly to co-operate with engineers undertaking studies and executing plans for such work.

There is scarcely a city in the heating zone but offers the observant engineer an opportunity to point out unrealized avenues of profit to pro-
A Christmas Message

THE Directors, Officers and Directing heads of ADSCO are joined by every one in the organization in grateful appreciation of your good will and wish you all the joys of the Christmas season.

ADSCO enters the New Year with a determination to excel its past efforts to please you, whose kindly business has ever been the foundation of its success.

AMERICAN DISTRICT STEAM COMPANY

NORTH TONAWANDA, N.Y.
Community Service—the Slogan of Civic Officials
Now Showing Keen Interest in District Heating

There may have been a time, not so long ago, in the history of some cities when the leading servants of the public, from Mayor down, concerned themselves more with political propaganda than with problems of community improvements. That day, in the vast majority of cities, is past. Today, the executive office holders in municipal government have a profound realization of their public trust and combine an enthusiasm for civic betterments with a sound discrimination in the execution of their varied responsibilities.

Within the easy memory of most readers, strenuously contested battles can be recalled where the question for decision by public ballot was whether or not a public service corporation was to be granted a franchise to generate and distribute electricity to furnish the then new method of street and home illumination. In the light of today’s high standards of electric service and appreciating now the thousands of undreamed of benefits in light, power, economy, comfort, safety, health and pleasure, it is difficult to understand how, in any city not served with electricity, there could be found a single dissenting voice, let alone public men of recognized standing to champion the forlorn cause of ignorance, obsolescence and prejudice.

An eloquent commentary on the changed attitude toward highly desirable civic improvements has been furnished by a number of cities, large and small, during 1927. In no city that we know of, where a responsible public service corporation has gone to the public for franchise to undertake District Heating, has the vote been other than overwhelmingly more noticeable that the public plaudits go not to the Mayors and Aldermen, who pose on every possible occasion as masters of oratory, but rather to those strong men in public life who bring to their positions business ability, executive experience, an appreciation of civic needs and a courage to overcome all obstacles in the way of progress.

In public life in America it is constantly becoming

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in favor of the improvement. This has not been due so much to the actual expressed desire of the public to purchase its heat from underground mains as it does water and gas, but primarily due to the splendid co-operation of the city's strong men in public life, who, realizing the countless benefits of District Heating to the community, exerted themselves in unselfish and tireless efforts to assure for their cities this modern and perfect method of fireless heating.

Beyond doubt there are hundreds of towns and cities where no District Heating is now being done, but where the Mayor or leading councilman, city engineer or other official, if of the progressive temperament, could build up a strong public sentiment for such a service, and, since the expression of a need is the first step toward its fulfillment, an installation may reasonably follow. A city, in this respect, is much like an individual, in that whatever it really wants badly it generally gets.

It is a healthy sign when Mayors of cities, Aldermen, City Engineers, Secretaries of Chambers of Commerce and other such, commence writing to secure information on how District Heating can eliminate the smoke nuisance; how it can greatly reduce fire hazards, traffic congestion, advance public health and bring modern heating methods to municipal and other buildings. Letters of this kind are frequently received and it is a pleasure to cooperate with municipalities who are making a study of District Heating, either with a view to operating such a utility or in helping discover how best it may be arranged for and provided.

District Heating for Colleges and Other Building Groups

There is no other branch of District Heating which has become so general in its application as Central Heating for Colleges. There are but few progressive educational institutions which are not, to some extent, benefiting from the economies and other advantages of centralized heating. Government, County and Municipal institutions, too, are generally heated from a central boiler plant.

True, there are many still using individual heat generators in each building, but their number is yearly decreasing and practically all of the new groups of buildings in these classes are being planned and constructed so as to incorporate District Heating.

The factor of cleanliness is of great importance with such buildings. Consider a college embracing from five to fifteen buildings. If each building has its own boiler plant, there will be as many chimneys pouring soot into the campus air. The boilers will be relatively small and combustion on a low level of efficiency. Combining the heat requirements will permit of one fairly large and highly efficient boiler plant, where practically complete combustion will almost eliminate smoke. This will not only keep the air clean and prolong the beauty of the buildings, but will materially reduce annual cleaning and redecorating costs.

The modern boiler plant can be so designed that practically every operation incident to transforming fuel into heat is performed automatically. The cost of engineers, firemen and other labor can be reduced from thirty to eighty percent. Higher efficiency means much lower fuel costs. By centralizing steam generation and providing a properly designed steam distribution system, such building groups are saving huge sums of money in maintenance and depreciation. Altogether, the economies in first cost and in annual operation, combined with the perfection of the resulting heating service, generously justify such installations.

As a matter of fact, central heating for institutions has developed so rapidly that those interested have all too frequently jumped into experiments of their own, not realizing that this special branch of engineering has been the field of exhaustive experiments for the past fifty years, and that science and inventive genius have succeeded in overcoming all of the difficulties, while experienced specializing engineers have discovered certain fundamental principles which should always be considered in any project of high or low-pressure steam transmission.
Although institutional central heating has been recognized for many years, it has been like a plot of ground planted with good seed and given little or no experienced attention. The plants have suffered and the harvest of economies and benefits is, in the main, much less fruitful than it could or should be.

In spite of a few outstanding examples of high overall efficiency in institutional central heating systems, there are in operation hundreds of these plants saddled with a tremendously excessive burden in original cost, due to unwise designs, selection of unsuitable materials and to improper installation. The correct design of a central heating system is as much a job for a specialist as an operation for appendicitis. If anyone were permitted to perform such operations, and did so, the unfortunate public would feel the strain.

An examination of several hundred central heating systems serving various building groups will disclose a high percentage of experimental plants. By this we mean plants which are so obviously the first of their kind the engineers had designed. In them one finds all sorts of freak innovations. The piping design of the distribution system reveals a lack of specialized experience. This is not in the least surprising, since no engineer could possibly be an expert in all of the many branches of engineering work which almost every large project involves. Not only is the piping generally complicated and cumbersome, but the selection of materials used indicates ignorance of the existence of special equipment, designed specifically for such installations, and in District Heating circles recognized as infinitely superior to ordinary equipment, designed and sold for ordinary work, yet costing as much or more than the proper materials.

The conduit design is another source of costly experimental indulgence. So often in plants of this kind, one finds a huge concrete tunnel housing a relatively small steam supply and return line, and occasionally a number of underground expansion chambers so-called, costing hundreds of dollars in material and labor and with hundreds of dollars worth of pipe and covering (insulation) winding in and out. In nearly every such case, an experienced specialist could have saved thousands of dollars in first cost, and hundreds of dollars in annual operation. He would have recommended just the right one, of a few, specially designed combinations of conduit and insulation materials. He would have selected the proper special expansion joints. In a word, he would have brought to the installation the economy and security of modern specialization and recognized special equipment—and all at a considerable saving.

The central heating plants of building groups which are showing maximum savings and operating with complete satisfaction are those which from the first study have had the benefit of experienced specialists collaborating with the engineers retained for the project. When the head of an engineering firm can say that his engineers work with the engineers of the American District Steam Company on matters pertaining to underground distribution of steam or hot water, there is no better assurance his client could ask for to satisfy himself that his central heating system will be the last word in modern design. This is his best guarantee, that the first cost will be kept to the lowest possible point consistent with high efficiency and dependable heating service.

Colleges are forming the habit of requesting their consulting engineers to work to the fullest extent with the “Engineers’ Service Department” of the American District Steam Company when investigating central heating or when making plans for underground piping installations. The hundreds of letters received from presidents and heads of institutions reflect the confidence they have in this fifty-year-old organization of specialists. The Engineer who claims the advantage of “ADSCO” authority on District Heating problems enjoys the same confidence and can be relied upon to do justice to any such project.
BANKS are commonly regarded as cold blooded business institutions. The rigid regulations necessary to insure security to depositors require prompt and unfailing attention to maturing obligations by borrowers. In ordinary business there is a flexibility and softness which in contrast makes the banker’s exactitude appear barren of other considerations than ample collateral, ratio of quick assets to liabilities, interest payments, reductions on principal, abhorrence of overdrafts, ratio of credit balances to loans and a multitude of similar things which, in the main, are contrary to the customers’ desires. There is no greater injustice, however, than to characterize the modern, successful banker as frigid, unreasonable or devoid of any of those traits or interests which bind us in understanding and opportunities for mutual advantages to our other business associates.

As a matter of fact, which is daily being forcefully demonstrated, our widespread prosperity for the past few years is more attributable to the aggregate effect of wise counsel by the country’s bankers than to any other single item. Careful bankers, friends of their large industrial customers, have ever criticized overexpansion, are constantly stressing the need of cutting production and overhead costs, employing modern equipment and processes, and directly authorize the expenditure of hundreds of thousands of dollars in continuous and effective propaganda, appealing to the public for the practice of economy and saving.

This is by no means the extent of the banker’s interest. Time and again industry has been benefited and indirectly the public, by the adoption of some banker’s suggestion that amalgamations be effected; that adjacent buildings be purchased and the line of products be extended; that new capital be employed for justified purposes and that existing facilities be turned to more profitable employment.

The banker is in an ideal position to analyze the present condition of his utility and industrial customers and visualize broad opportunities which may never have occurred to the management. For example, Banker Jones may know that the Blank Manufacturing Company has a factory located in the heart of, or close to a fairly well built up business or residential district. He knows the president of the Blank Company is a sound business executive, anxious to operate his plant at maximum earning capacity. He knows enough about District Heating to realize that wherever it can be applied, it is one of the greatest improvements any community can enjoy and a convenience beyond comparison to everyone in position to use this perfect heating service. He may inquire of his friend, the president of the company, whether or not he has boiler capacity to generate more steam than the company requires, or suggest consideration of installing additional boilers so that a local District Heating plant may be operated from the factory.

In such a case there would be little or no added labor cost, since the same boiler plant staff could probably turn out twice as much steam. The only added cost would be the additional fuel and the carrying costs of the underground steam distribution system. To offset this, much higher boiler efficiency would be secured and the income from the sale of steam would show a handsome profit on live steam generation which would be increased if some exhaust steam were available.

Banker Jones may appreciate these things and, through bringing them to the attention of the industrial executive, be the prime factor in solving the heating problem in an entire district, adding considerably to the net earnings of the factory and cementing most cordial relationships between banker and customer.

Almost every city, large or small, has progressive, public-spirited men at the head of its financial institutions. Practically every northern city has boiler plants not now being used or only half used. A glance at the smoke stacks reveals their location. The time is fast approaching when thousands of such boiler plants will be enlisted to serve the public by becoming the central stations of District Heating plants. Bankers’ foresight will play an important part in this modernization of community heating, not only because the movement is altogether laudable, but because as well, every profitable heating utility is a most desirable bank customer.

Bankers as Public Benefactors
Will Play Important Parts in Modernization of Community Heating
Whenever you have a problem in District Heating, consult our Engineers' Service Department.

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an expensive, dirty, cumbersome, inconvenient, noisy, inefficient, dangerous individual heat generating plant in every home. In Philadelphia, Cincinnati and a few other cities, several of these men to whom we are indebted for city beautification, have come to realize that adequate, dependable, fireless heat assured by District Heating, is the one most effective advertisement when building homes for sale or when developing a residential section. The engineer who specializes in this field, and who takes time to discuss the subject with his realtor friends, may reasonably expect to play a major role when his friends fall in line with leaders elsewhere and advertise homes of eternal summer.

Every progressive engineer is necessarily blessed with an imagination well above average. The exercise of his imagination will open vistas of appealing opportunities wherein District Heating shows utility and industrial profits, institutional economies, highly desirable communities and civic improvements, all leading to engineering needs.

Obviously, no engineer can be a specialist in every sub-division of his general field. A lifetime must needs be given to master the principles and details of every branch of engineering. The successful engineer like the successful lawyer does not attempt to pose as an authority, but rather his value to his clients lies in his knowledge of where to turn for authoritative advice on matters of a technical and special nature. For fifty years this Company has specialized in one branch of engineering—District Heating. We cannot talk to you about turbogenerators, high tension electric projects or any of a hundred other engineering subjects. On the other hand, when it comes to the design of high and low pressure steam or hot water transmission or distribution piping, accommodation of pipe expansion, design of expansion joints, steam traps, steam flow and condensation meters or anything having to do with the many applications of District or Central Heating, then we claim recognition and stand ready and anxious to serve.

Our Engineers' Service Department is headquarters for any kind of information, criticism, suggestion, recommendation or specification in connection with steam or hot water piping. Questions of layout, expansion, insulation, trapping, metering, etc., are constantly coming in to us, and in the interests of higher efficiency and more satisfactory operation, it is our pleasure to give freely out of our wide experience.

Consult Our Round Table of Engineers

To further the sale of ADSCO Products for steam distribution, we offer our 50 years experience in the district heating field to engineers who are confronted with problems of steam distribution.

For over 50 years we have co-operated with engineers on projects ranging from the centralized heating of a few buildings to district heating operations embracing large down-town business areas.

Let us know what your problem is and we will help you solve it. Or, if you are interested in the highly specialized line of ADSCO products for steam distribution, write for literature on Adsco Expansion Devices, Anchor and Service Fittings, Conduit Materials, Gate Valves, Steam and Condensation Meters, etc.

ENGINEERS' SERVICE DEPARTMENT

AMERICAN DISTRICT STEAM COMPANY

GENERAL OFFICES AND WORKS

NORTHERN TONAWANDA, N.Y.

Offices and Agents in Principal Cities

Specialists in Steam Distribution for over 50 Years.
Anxious to broaden its field for service to the community, the Consumers Power Company, Kalamazoo, Mich., is bringing to that city the advantages of District Heating. The franchise for this utility was enthusiastically passed by a vote of 3 to 1.

Complete installation of the steam distribution system is being made for the company by the Northeastern Piping and Construction Corporation. The use of ADSCO expansion joints and other specialties for steam distribution will reduce maintenance costs to a minimum.

The Northeastern Piping & Construction Corporation maintains a large staff of experienced engineers and has complete equipment for economical and rapid installation of underground piping.

NORTHEASTERN PIPING & CONSTRUCTION CORP.
NORTH TONAWANDA, N. Y.
Branches, New York, Philadelphia, Chicago, Seattle.
Subsidiary of
AMERICAN DISTRICT STEAM COMPANY
GENERAL OFFICES AND WORKS
NORTH TONAWANDA, N.Y.
Over 50 years experience in the installation of district heating systems