

HOW DISTRICT STEAM HEATING GOT ITS START IN UPSTATE NEW YORK

In June of 1934 Rochester was host to the 25th Annual Convention of the National District Heating Assn. (NDHA). From a small beginning this industry had grown into one of the largest municipal energy consuming operations in the nation. It was born on Chestnut St. in Lockport, NY in 1876, where engineer Birdsell Holley conducted a series of experiments to show that steam could be transmitted, effectively, for long distances. The object of his experiment was to bring still greater perfection to his Sybill Steam Fire Engine. His plan was to conduct live steam from a central generating plant to fire hydrants throughout the City of Lockport, where fire engines would take their power for pumping, as well as water, from the hydrants. The steam boilers he developed to power these systems in many American cities, as well as the fire hydrant water system, here in Rochester, still bears his name. The station in New York State's Capital has been converted into a popular restaurant, the Albany Pump Station, and serves as a cornerstone of that city's historical district.

Of even greater success were the central station steam heating systems in many other major U.S. cities. Rochester's was only the third such system to enter operation, in 1899. Our first steam plant was erected at Edison and Exchange Sts., adjacent to the Erie Canal. A second plant was established on Brown's Race, and others followed on Mill St., Litchfield St., Lawn St., Lincoln Pk. and Goodman St. By 1934, these powdered-coal-fired stations, operated by Rochester Gas & Electric Corp., were serving over 300 customers, ranging from industries to hospitals, and included commercial as well as single-family residential structures. By this time, more efficient transmission lines and advanced insulating materials enabled the effective transmission of high-pressure steam for up to two miles. In 1934 this allowed Rochester's system to earn the distinction of serving the largest number of industrial customers, of any such system in the World, having become the sixth largest central station system on the planet. The delivery of over 1.2 Billion pounds of steam to its customers in Rochester, NY required the annual consumption of 100,000 tons of coal.

The driving force in the rapid evolution and success of these systems, was their ability to effectively eliminate the "forest" of urban smokestacks that populated America's major cities and the accompanying oppressive clouds of downtown smoke, soot and cinders. Further, the persistent problem of sidewalk ash barrels, littering downtown streets, awaiting municipal collection, became a thing of the past.

From early the experiments in Lockport, NY, came the Holley Steam Combination Company, later the American District Steam Company of North Tonawanda, NY. By the early 1880's, the New York Steam Corporation was formed. Eventually the largest of its kind in the World, it provided heat to the developing skyscrapers of Manhattan, eventually serving the Empire State Building, Rockefeller Center, Chrysler Building, Grand Central Station and many others. Beyond simply heating these buildings, steam could meet cooling, cooking, laundry, hospital sterilization and many industrial

applications. This allowed engineers and architects to design most central-city buildings without costly boilers, boiler rooms and associated fuel and waste-handling equipment.

To this day, Rochester's District Heating Cooperative's natural gas-fired Lawn Street station serves a core group of the City's essential facilities, on both sides of the Genesee River, from a single plant. The system, now only 1/3 of its original size, is operated as a cooperative, governed by the customers it serves.