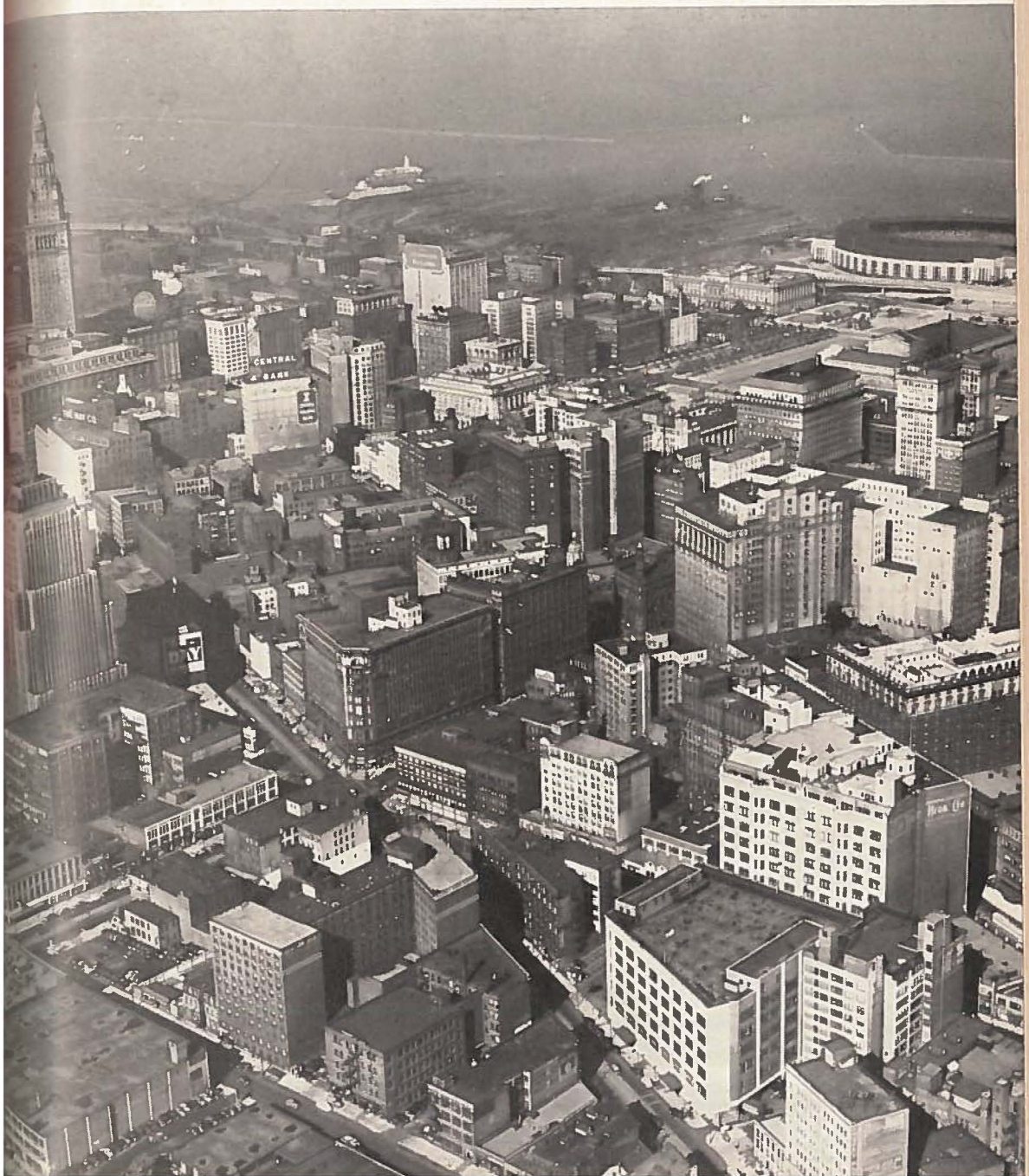


*The* BULLETIN *of the*  
NATIONAL DISTRICT HEATING ASSOCIATION

VOLUME XXX

JANUARY 1945

NUMBER 2





## *In St. Louis, Missouri!*

Additional steam load added to the Union Electric system in 1944 consisted of approximately 156,000 square feet of radiation, together with several process loads, three of which are briefly described:

### **ANIMAL FOOD ENRICHMENT**

The yeast by-product from breweries is now processed for use as animal food enrichment. It is received from the breweries as a cream-colored paste. After further processing the yeast is passed through two large steam heated cylinders, where it is dried and accumulates on the surface of the cylinder as a thin film or crust. The film is scraped from the cylinder, pulverized, and packed for shipment.

The present equipment has an hourly steam requirement of approximately 5,000 pounds. The monthly use averages approximately 500,000 pounds.

### **SOLUBLE COFFEE EQUIPMENT**

District steam is used to evaporate approximately 80,000 gallons of coffee per day. The coffee is reduced to a brown powder, a teaspoonful of which, when added to a cup of hot water, will instantly make a cup of coffee.

The coffee is first brewed in the usual

manner, after which it passes to an evaporator in which the liquid is subjected to high vacuum while heat is supplied to maintain the temperature of the liquid at approximately 120 F. The coffee leaves the evaporator as a syrup, and is then sprayed into a steam heated dry-room, the temperature of which is approximately 300F. The syrup thus atomized becomes a powder as it settles to the floor of the dry room.

Steam demand for the process is approximately 10,000 pounds per hour, with a monthly use of approximately 2,500,000 pounds.

### **RECLAIMING WASTE FATS**

Waste fats for the war effort are processed by steam in a surprisingly simple manner. The fats are collected daily from the various hotels and grocery stores, and are all poured into a large vat. It first is necessary to separate the fats from any foreign substance such as water, dirt, bones, meat skins, etc. This is accomplished by discharging steam into the mixture which melts the fats which accumulate at the top; any water or condensation from steam simply collects at the bottom and is drained off. The 500 gallon vat requires an hourly steam supply of approximately 1,000 pounds.

## *In Rochester, New York*

Sibley, Lindsay & Curr Company, "The Boston Store", a very big department store with twenty-three acres of floor space has been taking its entire steam and power service from the Rochester Gas and Electric Corporation since May 1942, but this large increase in load has not been reported here until now.

Until 1937 all power and all steam for the store were supplied from the store's own plant. In that year increased power requirements for modern store lighting made it necessary either to install additional generating equipment or to purchase part of the power and the decision was for the purchase. Because of additional modernization





Views before and after removal of power plant

in 1941 the store management decided to purchase all its steam and power and to remove the power plant. This was done in 1942.

The change to purchased power and steam service has freed the store management from the problems of power plant operation, eliminated a source of noise and dirt in the neighborhood and released valuable space for future use. These advantages are clear gains as the dollar cost of purchased service compares favorably with the cost of service from the former plant.

Of particular interest at present with the existing wartime fuel shortage is the fact that purchased service saves the community over 4900 tons of coal per year.

"The volume of the buildings is 14,664,-

000 cu ft. The average of the last 2½ years' steam consumption is low pressure 42,000,-000 lbs, high pressure 10,500,000 lbs, totaling 52,500,000 lbs; or an average of approximately 3.6 lbs per cubic foot per year. This figure includes the steam used in water heating for the buildings and the steam used by three restaurants.

"The use is running considerably below the estimated steam consumption which was based upon Sibley's steam production records for its plant operation for 1939 and '40 and other data. Data from twelve department stores indicated at the time the estimate was made that the probable consumption of purchased steam would be from 15 to 20% below the estimate. This expectation has been fully realized." (1)

(1) Figures supplied by Landis Shaw Smith.