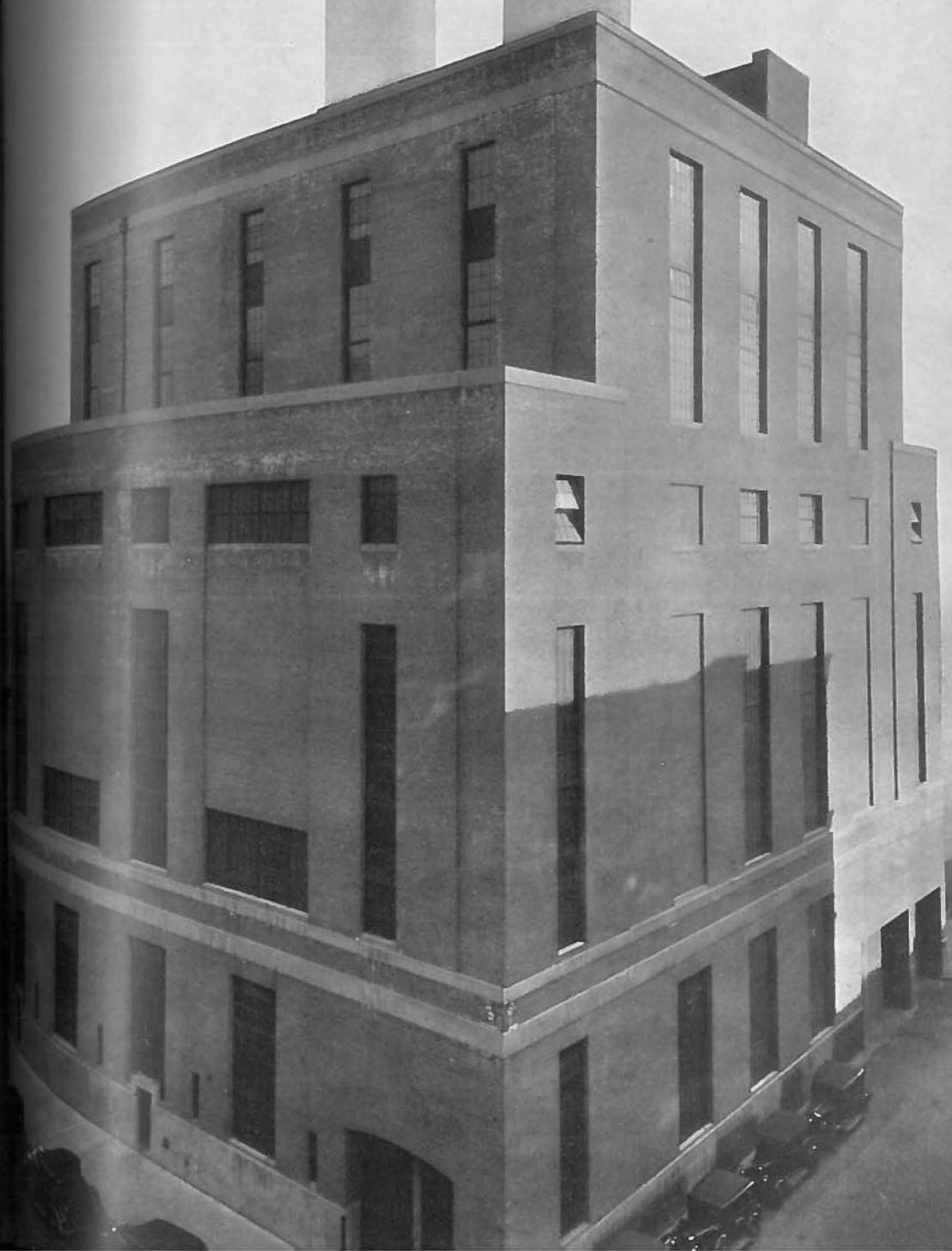


The BULLETIN *of the*
NATIONAL DISTRICT HEATING ASSOCIATION

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Foreign Progress with N. D. H. A. Members

FRANCE:

RELATIVELY recent articles in "Heating and Ventilating;" The Architectural Forum" and copies of "Chauffage et Ventilation" interested us, so we sent them on to our member in France, Monsieur Ph. Schereschewsky.

Our private interpreter put Monsieur Schereschewsky's letter into English words of one syllable for us so we could understand it, and we take pleasure in passing on some of his comments to you.

He wrote that he was particularly pleased to hear from a fellow member of the N. D. H. A., particularly after having visited Rochester. (Editor's note—we hope to be able to return the compliment in a couple of years. Most everyone likes Rochester, and we've heard there are some interesting sights in Paris, too!) He promises an article on recent D. H. developments and extensions in France for our Bulletin, saying "I only regret that the recent economic crisis has considerably slackened the development of our heat distribution system and that the Paris system is quite modest in comparison with some American systems."

Please remember us, Monsieur! We need that article for the January Bulletin. (By December 15th please.)

IRELAND:

Preliminary Outline of Study of Proposed Heating and Industrial District Steam System for Part of Belfast, Ireland

By HENRY R. AYTON, A. M. I. Mech. E.

DURING my visit to Canada and America I was very much impressed with the extent of the underground mains system of steam supply.

The bulk of this was in connection with office and building heating, although a high

pressure supply was available in a number of cities.

Now I was mainly interested in the question of supply of steam to industrial users, and as my itinerary was arranged it so happened that I came across the best examples of this in Rochester, the last city I visited in the United States of America.

As I see it, over in America and Canada with your cold winters, unless you have a large industrial steam load your bulk steam demand is seasonable, and during the summer months a large proportion of the plant would be idle. This results in a low average load factor taken over the year.

Now, in our temperate climate, where we only go down to 32° F. about four times in the winter and have an average winter temperature of 44° F., similar plants could not possibly pay as the demand for building heating steam would not justify the investment in plant.

If we are to adopt this system we must have a steady demand for industrial steam all the year round and base our costs on this—only using our surplus or peak capacity as a means of supplying steam for heating offices and similar buildings in the winter time. That is to say, the great proportion of our installed plant must have an every-day load and not a short seasoned load.

Another feature that I was pleased to find in Rochester was that before the steam was sent out of the station, in most cases, some power had been extracted from it, and that where the client was both a user of steam and electric power, he was given the benefit of a reduction in cost of supply.

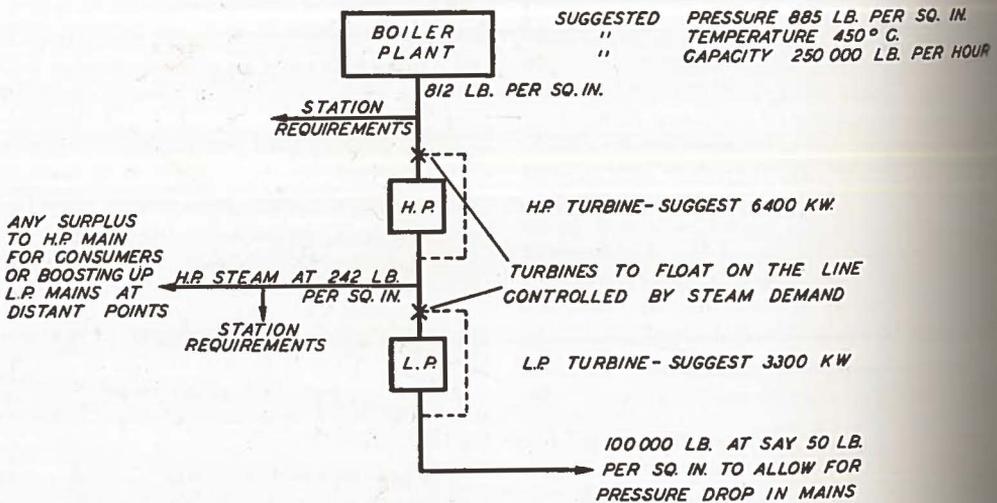
It is a well known fact that high pressure steam can be generated with very little increase in coal consumption, and during the last few years extra high pressure boiler plants have become available. By using high pressure boilers and interposing a turbo generator as the reducing valve, exhaust steam becomes available at a relatively high pressure, and any power so produced is at very little relative cost.

Fortunately, we have an industrial area in Belfast. For this area we would require about 10,000 KW and about 100,000 lbs of steam for process and drying at about 60 lbs pressure. Although this is the potential load for this area, we cannot hope to pick it up right away as clients have their own boiler plants and power plants. We must, therefore, legislate for this and be in a position to give them power if they want to dispense with their power plant, or alternatively high and low pressure steam if they want to dispose of their boiler plant.

controlled by demand for high pressure and low pressure steam, somewhat as shown in the diagram. This would give us a very flexible job, and should clients eventually take direct electric supply their demand for high pressure steam would fall off, when this steam could either be used for boosting purposes or be taken through another low pressure turbine and exhausted at 60 lbs. No doubt, by such time we should have increased our demand for low pressure steam.

There are, no doubt, a number of modifications that will occur to us after we have

ESTIMATED LOAD 10000 KW
& 100000 LB STEAM PER HOUR
AT 30 LB PRESSURE
AT CUSTOMER'S WORKS



Preliminary—Proposed Steam System for Part of Belfast, Ireland.

We propose to explore the following idea:

Install a high pressure boiler plant to give, say, 250,000 lbs at 800 lbs per square inch. Take this high pressure steam through a 6400 KW turbine, exhausting at 200-240 lbs per square inch, supply any steam required for power plant and re-heating at this pressure, and pass the balance through a low pressure turbine, say, of 330 KW, which would finally exhaust against a back pressure of 60 lbs per square inch about 100,000 lbs of steam. Both turbines to float on the line, and the output to be

pursued this matter further, and after possible customers have been consulted a very much closer estimate of the proportion of high pressure to low pressure steam will be arrived at. Incidentally, this will assist in deciding the size of mains and turbines.

We have checked on an ordnance map, the industrial area referred to and the suggested run of mains which would eventually be carried down town and linked up to the existing steam plant at East Bridge Street. This plant has been shut down owing to the

(Continued on Page 30)