

CHARTER STREET HEATING PLANT



Fig. 1. The Charter St. Heating plant looking east c. 1985. The emission control "bag house" is under construction on the east side of the plant. Dayton Street is at the left of the picture. The single smokestack was built in 1963 to replace the original three shorter stacks, which were too low to prevent soot in the neighborhood. [series 9/5, Charter Street Plant, jf-74]

Purchased second hand from a Michigan firm, the Charter Street heating plant came on-line in September 1959. It has been expanded many times since its erection.

In 1951, faced with unprecedented growth of the University physical plant, the regents commissioned an engineering study of the University heating system. The engineers, Sargent and Lundy, reported in October 1951 that "the present heating plant has reached its capacity."¹

In 1955 a planning committee was appointed to plan a new heating plant. The committee, which had Sargent and Lundy update their study concluded that the campus could no longer afford to grow in the east west direction, and would have to expand into the area south of University Avenue. The committee selected a site that would be approximately central to the heating plant's load, the block bounded by Mills, Charter, Dayton and Spring Streets. The state allocated \$200,000 for studies and plans for the project.²

The next year was taken up by investigating various technologies for the new plant. The old plant was coal fired, but coal was expensive dirty, and clumsy to store. The committee looked at natural gas, but found that the gas company had no delivery line nearly large enough to supply the plant. They had also considered, in 1954 the construction of a nuclear power plant. The idea of replacing 40,000 tons of coal with 40 pounds of uranium had obvious appeal. The committee asked the chairman of the chemistry department, Farrington Daniels to act as technical consultant. The federal AEC and many other technical experts were consulted. Daniels finally recommended against the idea in April 1954. He pointed out difficulties: the production of 40 pounds of fission products



Fig 2. The erection of the American Motors heating plant, summer 1958. [series 7/4 folder #2, jf-99].

per year was "an imposing problem". "I am still worried about the hazards. If we took a-one-to-a thousand chance and the reactor did blow up ... we'd be less popular than skunks and I suppose there could be terrific damage suits." The nuclear option was dropped on March 7, 1956. After more investigation it was concluded that coal was still the best alternative.³

Although the Charter Street site was the best location, it was not owned by the University and this meant that the appropriation for the heating plant had to be used to buy land. This limited the money that could be spent on the plant itself. The committee struggled with this difficulty through most of 1956 and early 1957. Several plans were rejected because of their inefficiency and stopgap nature. President Fred continued to lobby the legislature for additional funds.

Into this difficult situation, in October 1957, came a letter to the state engineer, from the Michigan firm of W. Hawley and Company, an industrial salvage firm. The letter offered for sale a large and nearly new steam generating plant, built for the recently abandoned American Motors plant in Detroit. The cost was \$2.5 million. The offer included the erection of a suitable building to house the plant at the site selected by the University and an array of modern equipment to boost the efficiency of the plant. Hawley's offer would give the University a better and larger power plant than they had been contemplating, and at a cost saving of approximately \$1 million. University representatives travelled Michigan to examine the plant, and discuss plans for the building and were impressed. Business manager Peterson inquired, with good results, into the reputation of the Hawley company. It

seemed like a miracle.⁴

The only hurdles to be cleared were land purchases and state approval for funding. Hawley's offer was presented to the state building Commission on November 8, 1957. The state agreed to fund the purchase if the University would agree to defer the expenditure of \$1.8 million on new construction and maintenance. At their November 1957 meeting, the regents agreed to this arrangement. In December 1957 Hawley was notified that their offer had been accepted. The funding issue was resolved. Land purchases began immediately. Total property cost was about \$340,000. On April 29, 1958 the daily *Cardinal* reported the groundbreaking for the new heating plant by president Fred and governor Vernon Thompson. Projected completion date of the project was set at September 1959. In March 1959 the construction contract for the steam tunnels which would connect the new plant with the network of steam lines to the campus was awarded to J. P. Cullen and Son for \$156,000.⁵

In September of 1959, the new plant was successfully test fired. It was in full operation by October 15. The plant took over full heating load for the University in time for the winter of 1959. The plant was design to be expanded. It was originally a 63 by 260 foot structure faced with brick and having three boiler of 100,000 pounds of steam capacity each.

The first addition came in 1965 when a 98 by 80 foot section was added to the north side of the plant. The design was by state architect Werner Guenther. The addition was faced with brick. Into this addition went boilers 4 and 5. In 1966, a chilled water facility to provide air conditioning for the University. This facility was 54 by 76 feet and built onto the south side of the original plant. The chilled water facility was expanded in 1973 with another south addition of 70 by 70 feet, The plant is now more than twice as large as when it opened in 1959. It also contains a 3000 kilowatt-hour electrical generator connected to the MG & E power grid. The later construction of the Walnut Street heating and chilling plant has reduced the total load on the Charter Street plant, and any further expansion needed will probably occur at Walnut Street. But the second hand "Rambler heating plant" still carries the bulk of the load for heating the campus.⁶

1) Archives series, 24/9/2 box 8;

2) Heating Plant Building Committee minutes, March 7, 1956, January 16, 1956, series 24/9/2/ box 8. *Regent's Minutes*, November 1955.

3) Daniels to Gallistel, November 16, 1955, series 24/9/2 box 8. Peterson to Morrow, August 6, 1954, series 24/9/2 box 7.

4) Executive Committee Minutes, October 23, 1957; *Regent's Minutes*, November 12, 1955, October 5, 1957, November 16, 1957, May 3, 1958.

5) *Daily Cardinal*, October 31, 1957, November 9, 1957, April 29, 1958, May 1, 1958, September 22, 1959, ; *Wisconsin Alumni Magazine*, January 1960 p. 13.

6) *Daily Cardinal*, February 8, 1964; *Badger Herald*, February 6, 1970; *Regent's Minutes*, July 12, 1963. Plans in the plans room of the physical department.