Northern States Power Company

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2ND ENTRY

Mr. Raymond A. Kibort,
Region VI Historian
Barber-Coleman Company
323 North Second Street
Rockford, IL 61107

Dear Mr. Kibort:

Enclosed please find a copy of the "History of The Trane Company" which I submit to you for inclusion in the 1984 C.R.C. Meeting Agenda. This is the category necessary for the La Crosse Area Chapter.

Thank you.

Very truly yours,

James M Ritter

James M. Ritter, P.E.
Chapter Historian

JMR/mls

Enclosure

2ND ENTRY

HISTORY OF THE TRANE COMPANY

The Trane Company was organized in the early 1900's and, like all beginning companies, experienced some growing pains and rough times financially.

James A. Trane came to this country from Norway, settling in La Crosse in 1864. He worked as a plumber and steam fitter, and in 1885 opened his own plumbing establishment. His son Reuben earned his Mechanical Engineering degree from the University of Wisconsin. In 1913, James and Reuben incorporated The Trane Company.

During these early years, patterns were formed for the future. Both James and Reuben were inventive and their personal interest in their employees soon made the problems of heating and cooling a challenge to everyone at Trane.

Trane began as a manufacturer of steam radiator traps. In the early 1920's Reuben Trane invented a new type of heat transfer surface known as the "convector radiator." Installed in a sheet metal cabinet, it became a highly efficient, lightweight replacement for the bulky, slow responding cast-iron radiator.

About this time, the country became involved in World War I. At the end of the war, a man who would set the company's financial policies for many years joined Trane. Frank Hood, Reuben Trane's brother-in-law, became director, assistant general manager, and treasurer of the Company. The firm began to grow, with Reuben concerned with new product development and sales, and Frank setting financial policies.

The lightweight, extended surface fin-and-tube heating element or coil was the basic component for many of the products of the 20's and 30's. Trane's first experience with the cooling or air conditioning end of the business was through the use of larger sizes of this coil with cold well water to cool theaters and department stores.

During the depression years, there were not many heating and air conditioning jobs. Hard times came to The Trane Company. Loyal employees stayed with the Company and helped see the problem through. During this time, Trane began manufacturing fans, largely for use in its own central station heating, ventilating and air conditioning units.

In 1938, a new type of water chiller with a centrifugal compressor, called the Turbovac, was developed. This was the forerunner of today's CenTraVac. The CenTraVac combines a centrifugal compressor, condenser, and evaporator, and is a complete water chilling unit that can provide cooling capacity for the largest air conditioning jobs.

Trane achieved a major breakthrough during World War II by developing a new method of brazing aluminum. This process made possible an entirely new design of heat exchangers--one of which was the aircraft intercooler. The new design, consisting of alternate layers of thin aluminum sheets and aluminum corrugated in varying shapes and patterns, proved highly efficient, with 450 square feet of heat transfer surface compacted into one cubic foot of space.

The period after World War II was one of rapid expansion for Trane. In 1950, Trane began the manufacture of reciprocating compressors. This put The Trane Company out front as having the most complete line of large central station or "applied" heating and air conditioning products for commercial, institutional and industrial buildings.

In 1959, Trane introduced the first large, completely hermetic single-shell absorption-type water chiller. The move into the absorption field rounded out Trane's refrigeration products to include all three basic types--reciprocating, centrifugal and absorption.

Looking to the future, Trane began a new venture into unitary or self-contained units for commercial users such as stores and shops. Success in this field lead to broadening the equipment line into the residential central system air conditioning market. Furnaces and a wide variety of small commercial equipment were also added.

In the early years, Reuben Trane and Frank Hood were quick to see the future of international operations. In 1928, Trane Company of Canada was formed with a manufacturing plant in Toronto.

In 1958, Trane acquired a minority interest in CEMAT, a French corporation in Epinal, France. Renamed Societe Trane, controlling interest was purchased by Trane in 1964.

Later, two overseas sales subsidiaries were formed: Trane S.A. in Switzerland and Trane Ltd. in England. In 1963, manufacturing facilities began production for Trane Ltd. in Donibristle, Scotland, and Trane Western Hemisphere was formed to handle exports to Central and South American countries.

With expanding interest overseas, Trane entered into ventures in Johannesburg, South Africa; Sidney, Australia; and Utsunomiya, Japan. These joint ventures later became Trane Southern Africa, Trane Company of Australia and Kubota Trane.

In 1973, Trane acquired Coldex Trane, Sao Paulo, Brazil, a major manufacturer of air conditioning and commercial refrigeration products in that Country.

In the U.S., Trane continued to manufacture all products in La Crosse until 1948 when a manufacturing facility was built in Scranton,

Pennsylvania. In 1958, a branch plant was added in Clarksville, Tennessee, followed by plants in Salt Lake City, Utah in 1961; Lexington, Kentucky in 1963; and a second plant in Clarksville in 1971.

Trane had researched, tested, manufactured and marketed its own products since incorporation in 1913. One such product was truck-trailer refrigeration units. Trane engineers developed a unit for this market and as interest grew, Trane made its first acquisition, the Arctic Traveler Company, Montgomery, Alabama which manufactures a broad line of truck refrigeration units for trucks and trailers.

In 1971, Trane acquired Murray Iron Works Company, Burlington, Iowa, a manufacturer of high pressure water-tube boilers and steam turbines. During 1974, a new boiler plant was completed there. However, in 1979 Trane chose to eliminate boilers from their product line and so this plant was closed. The turbine plant continued in operation until early 1984 when the turbine operation was sold.

In 1973, Trane acquired Thermal Research, later changing its name to Trane Thermal. This wholly-owned subsidiary located in Conshohocken, Pennsylvania is a manufacturer of burner and incineration systems. This acquisition provided Trane with important additional products for the rapidly growing pollution control markets.

The acquisition of Murray, Arctic Traveler and Trane Thermal gave Trane the most complete line of heating and cooling equipment in the industry.

In 1974, the plant and land in Rushville, Indiana, which had been leased since 1971, was purchased. The Company's VariTrane line is manufactured at this location.

In 1978, further acquisitions were made. The acquisition of Sentinel Electronics Corporation in Minneapolis, Minnesota initiated the formation of a Building Systems Group as a new operating entity and includes the Company's "TRANE" capabilities. Service First, Inc., in Charlotte, North Carolina, a re-manufacturer of reciprocating compressors was acquired to add to the Company's ability to serve the air conditioning after-market.

In 1980, Trane discontinued some operations with low financial returns so attention could be better directed to other areas offering better financial returns. These operations were:

a) Home Comfort Centers
b) Special Products Serving the Nuclear Power Industry
c) Phase Out the Donibristle, Scotland Plant
d) Japan Operation Changed from Joint Venture to License Arrangement

Late in 1982 Trane completed a 143,000 sq. ft. plant in Charlotte, N.C. to re-manufacture air conditioning refrigerant compressors. The new plant replaces a leased facility.

On September 15, 1982, Trane Company purchased GE's Central Air Conditioning Department. In the transaction, Trane acquired GE's manufacturing plants in Tyler, Texas; Trenton, New Jersey; and Fort Smith, Arkansas; its national central air conditioning distribution system; and the right to use the GE name for 3 years for these products and services. This purchase substantially increased the size of Trane Company.

The Consumer Products Division or CPD was integrated into the former Central Air Conditioning Department of General Electric, now called Trane Dealer Products, Inc., which is headquartered in Tyler, Texas.

Also during the end of 1982, Trane Company discontinued the manufacture and marketing of truck and trailer refrigeration products. The truck and trailer refrigeration product line, made at the Montgomery, Albama facilitity had included equipment for refrigeration of perishable commodities on intra-city vehicles, as well as over-the-road trucks and semi-trailers.

During 1982 Trane Company changed its participation in the Brazilian air conditioning market from a wholly owned subsidiary to a joint venture. The joint venture joins our subsidiary Coldex Trane with Radio-Frigor, one of Brazil's largest hermetic compressor manufactures. Trane now has a minority interest in the new joint venture, which is called Coldex Frigor.

In November, 1983 Trane announced the merger of Trane and Tyler Refrigeration of Niles, Michigan. Tyler has five factories and employs 1200. Tyler's major product line is in the commercial and supermarket refrigeration business.

In early 1984 Trane was acquired by American Standard, Inc., New York.

So in summary, The Trane Company began as an idea in the mind of one man. It has grown from its beginnings as a small plumbing concern begun in 1913 to a multi-national corporation holding a position of leadership in the air conditioning industry. Today, more than 12,000 employees worldwide contribute their ideas and skills to sustain and enhance Trane's leadership.