

Energy Infrastructure

Norwalk Hospital. Norwalk, Connecticut

Operating Fuels: Natural Gas & No. 2

Electric Capacity: 2.4 MW

Steam Capacity: 50,000 lb/hr

Project Cost: \$7.0 million

In Service Date: 1992



Simple Cycle Gas Turbine With Auxiliary Boilers

Norwalk Hospital is ranked among the top ten hospitals in the State of Connecticut in size, and is growing rapidly along with the rest of Connecticut's southwestern corner as major corporations continue to move their headquarters from Manhattan. Norwalk initiated an evaluation of cogeneration as part of a major construction/ renovation program to upgrade the Hospital's facilities. NORESKO was invited to perform the preliminary engineering and project development during 1987/88.

The Norwalk Hospital facility contains two simple-cycle gas turbines with a combined output of 2,400 kilowatts of electrical generating capacity and approximately 15,000 pounds per hour of 125 PSIG steam. When required, during periods of peak steam demand, or when the cogeneration equipment is not in operation, two conventional fire-tube auxiliary boilers are fired to produce up to 35,000 pounds per hour, as required by the Hospital.

The facility produces 100% of the Hospital's steam and 80% of the electricity consumed on the premises. The gas turbines are equipped to operate on natural gas or No. 2 oil. This comprehensive Energy Center is interconnected with the Hospital's existing steam and chilled water distribution systems, and new auxiliary boilers were installed to provide backup for the cogeneration plant.

At the request of the Hospital, NORESKO provided the front end development work on a third party basis. NORESKO acted as developer and Host's Representative for the facility, which was constructed in 1991, with commercial operation in March, 1992. NORESKO has operated and managed the facility since 1992.

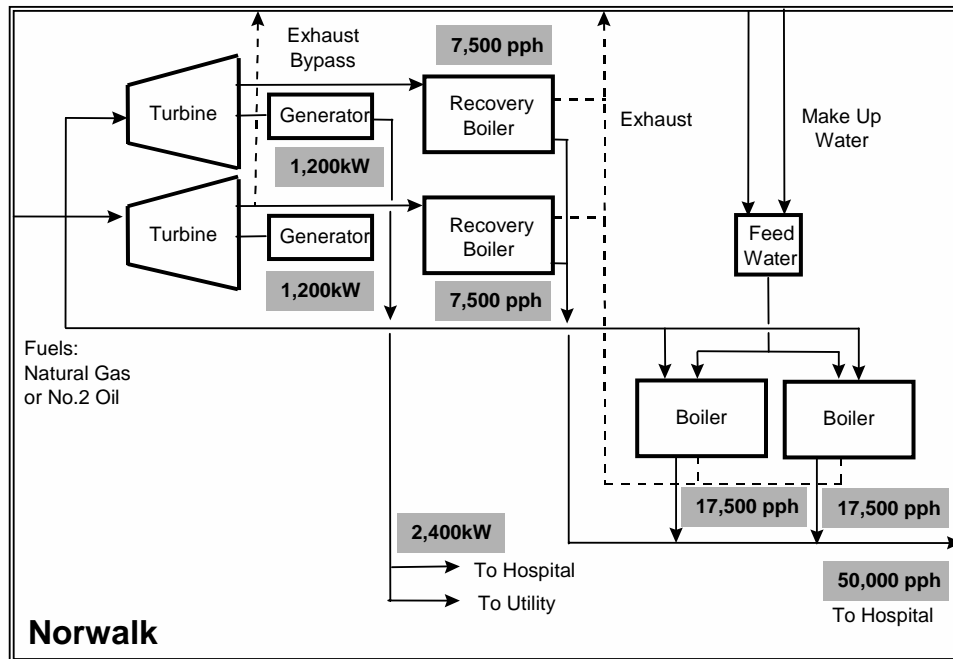
NORESKO acted as developer negotiating all contracts on behalf of the Hospital, and worked with the Hospital to qualify the facility for a tax-exempt Connecticut Hospital Finance Authority bond issue.

NORESCO has operated the facility since 1992.

The facility serves as the central plant for one of the largest acute care Hospitals in Connecticut. NORESKO is responsible for all energy budgeting, delivery of all electricity and steam and operation of the medical waste incineration system. The facility was financed with 20 year bonds. NORESKO provides all management and technical expertise with plant operation by Hospital employees.

In addition to providing up to 100% of the Hospital's steam, the facility produces 80% of the electricity consumed on the premises. The gas turbines are equipped to operate on natural gas or No. 2 oil. This comprehensive Energy Center is interconnected with the Hospital's existing steam and chilled water distribution systems, and new auxiliary boilers were installed to provide backup for the cogeneration plant.

Project Energy Diagram:



NORESCO is the nation's most experienced energy service company providing comprehensive and proven energy-efficiency solutions and infrastructure development and operations strategies to a wide range of customers. A recognized industry leader installing and operating over \$1.4 billion of proven energy solutions in diverse markets across the nation, NORESKO has built on-site energy infrastructure generating more than 300 megawatts of power, and has helped customers improve energy efficiency saving over 31 billion-kilowatt hours of electricity and 71 trillion Btus of fuel.