

Case Study

For this Elder-care Facility AERCO Turned an Aging System into a Model of Efficiency

Customer	Pennsylvania Nursing Home
Location	Pennsylvania
Industry	Healthcare
Sales Representative	The BAASE Company
AERCO Product Installed	Innovation 1060, Benchmark 2000*



What the Client Needed

This Pennsylvania nursing home is a 395-bed facility. A central plant of three, 40-year-old oil-fired steam boilers—supplying three u-tube semi-instantaneous indirect domestic water heaters and a 250-gallon storage tank—provided space heating and domestic hot water for the facility. The system was meeting demand, although it was old and very inefficient—calculated in the 50 to 60% range. A gift shop, located above the boiler mechanical room, had to run air conditioning year round, because the heat would melt the shop's chocolate.

AERCO's Solution

Consolidated Engineering, brought in to design the new system, had extensive experience with AERCO products and highly recommended them. The firm specified three AERCO Innovation 1060 water heaters and three Benchmark 2000 MBH boilers for the upgrade, along with converting to natural gas from oil. The Innovation 1060s and Benchmark 2000s, with their 95+% efficiency and compact design, made perfect sense for this busy facility:

- The units' small footprint and ability to fit through a doorway made installation seamless and easy.
- Each on-demand, tankless heater is capable of 29 GPM @ a 70°F temperature rise...enough to handle the entire building load, without any additional storage.
- The Innovations exhaust into one common flue, requiring only one penetration for all three units. The Benchmarks were also common vented. All of this resulted in dramatically lower installation costs.
- The three Benchmarks were installed in the same footprint as only one of the old steam boilers. The remaining two old boilers were removed, and there was now enough space to install a new emergency generator.
- The AERCO Control System (ACS) operates the system on an outdoor air reset schedule. It maximizes system efficiency by sequencing the boilers to operating at the lowest fire rate and highest operating performance.

*This case study references a previously available version of the Benchmark boiler.

Return on Investment

In this part of the country at that time, the average price of heating oil was \$2.61/therm [\$3.70/gal.], while natural gas was only \$.81/therm [\$8.13/1000 cubic feet]. The combined effect of lower fuel costs, higher system operating efficiencies, and the ability not to run the boilers for a good portion of the year, resulted in fuel bills that were one fifth of the prior year.



Heating and Hot Water Solutions

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