

## Penacook Place

*Haverhill, Massachusetts*



### Background

Originally established in 1969 as Union Mission Nursing Home, Penacook Place, a 160-bed, not-for-profit nursing and rehabilitation facility located in Haverhill, Massachusetts, offers state-of-the-art care, modern amenities and a wide array of services. But, like many other healthcare facilities largely dependent upon diminishing state and federal funding, Penacook's resources are limited.

Utility costs had been increasing for years and Penacook had continuously looked for innovative ways to lower those costs in order to avoid cutting services. "When I was introduced to American DG Energy, I was open to anything that would help us reduce energy costs," stated Julian Rich, President & CEO of Penacook Place.

### Solution

After consulting with Penacook, American DG Energy initiated a no-cost feasibility study to determine if an On-Site Utility would be a good fit for Penacook's facility and its energy requirements. The study involved performing a site survey, evaluating the historical energy use patterns, assessing the installation and system modification costs and estimating annual savings.

After careful examination of the data, American DG Energy concluded that with its On-Site Utility energy solution, Penacook Place could realize annual energy cost savings of \$6,900. Since Penacook would not pay any equipment purchase or installation costs, their savings would begin immediately.

Familiar with combined heat and power (CHP) or cogeneration systems (the technology behind the On-Site Utility), Mr. Rich assumed the purchase and installation costs of a cogeneration system at Penacook to be cost-prohibitive and that financing made no sense. But, with American DG Energy, no installation costs and no capital expenditure were required. According to Mr. Rich, "once I learned the specifics, selecting American DG Energy's On-Site Utility energy solution was one of the easiest executive decisions I've ever made. It was a no-brainer."

American DG Energy handled all permitting and necessary modifications to the existing infrastructure required to install a 75 kW On-Site Utility, which includes a natural gas cogeneration unit, just outside the boiler room at Penacook Place. The On-Site Utility produces both electrical and thermal energy at Penacook; it is the first source of electricity for ventilation and air conditioning

and the first source of hot water for bathing, cooking, and space heating at the facility.

American DG Energy sells the energy produced by the On-Site Utility to Penacook at a price guaranteed to be lower than the local utility. Penacook only pays for the energy used; they don't pay any operating costs and they don't maintain the equipment. All operating responsibilities are handled by the experts at American DG Energy.

As an added benefit, the On-Site Utility significantly lowers Penacook's greenhouse gas emissions, offsetting as much as 306 tons of CO<sub>2</sub> gas each year, the equivalent of planting 83 acres of trees or eliminating the emissions of 52 cars.

Penacook is pleased with the On-Site Utility and happy to let American DG Energy own, operate and maintain it. Penacook realizes the advantages of a clean, efficient energy system at no risk. And not having to pay for it was key to its being implemented. "We could not have afforded this highly-efficient energy system without American DG Energy," said Mr. Rich. "Not needing to finance this project made it possible."



## Project Highlights:

- Installed a 75 kW natural gas cogeneration unit
- Utilized cogeneration unit thermal output to generate domestic hot water
- Modified piping and controls for the heating and domestic hot water architecture
- Eliminated use of boilers during the non-heating season
- All operating responsibilities handled by American DG Energy
- Installed additional metering to monitor system operation
- Reduced annual operating expenditures of boiler system
- Reduced greenhouse gas emissions by 306 tons of CO<sub>2</sub> annually

**No Cost | No Responsibility | No Risk**  
*Just Savings*

American DG Energy Inc.  
45 First Avenue  
Waltham, MA 02451  
p: 781.522.6000  
f: 781.522.6050  
info@americandg.com  
www.americandg.com

© 2008 American DG Energy Inc.

♻️ Printed on recycled paper.