

NIH's Cogeneration at Glance

1. The investigation on the feasibility of developing a natural gas-fired cogeneration system at NIH's started in early 1993. Cogeneration produces steam and electricity simultaneously requiring much less fuel (and less emissions to the atmosphere) than producing each form of useful energy separately.
2. NIH signed an Energy Conservation Project (ECP) Agreement with Potomac Electric and Power Company (PEPCO). The ECP was signed on March 23, 2000, under this Agreement; PEPCO will finance, construct, operate, and maintain the \$38 million cogeneration project. This is one of the largest cogeneration plants in US Government.
3. After 10 years of planning, and preparation, on February 20, 2003, at 6:57 PM Cogen was fired up. The commissioning and NIH acceptance lasted 17 month, before it was commercially operated on July 19, 2004.
4. Cogeneration was funded and is operated by PEPCO for ten years. During this period, PEPCO will recover all of its capital and operational costs from the savings generated from the Cogeneration.
5. Cogeneration system would operate at base load to generate 22 Megawatts (million watts) of electricity and 105,000 pounds per hour of steam and having capability of generating 180,000 pounds per hour of steam using auxiliary firing. Cogeneration base load production represents approximately 35% of current average campus electricity and steam load.
6. Cogeneration will save NIH an estimated \$60 Million over fifteen years in steam and electricity costs.
7. Cogeneration energy savings is **640 billion BTUs** a year (the equivalent of the energy used in about 5,000 homes in a year).
8. Cogeneration will reduce NIH's major emissions by approximately 600 ton/yr compared to the separate generation of steam in a new boiler and generation of electricity by typical existing utility equipment.
9. Cogeneration will also reduce CO₂ (a greenhouse gas) emissions by approximately 100,000 ton/yr.

Cogen Daily Statistics

Unit Gross Output per Day	Million Watts	530
Plant Net Output per Day	Million Watts	505
Steam Generation per Day	1000 LB	2,600
Natural Gas Flow per Day	1000 Cubic Feet	6,000





