



**MiURA**

**Case Studies:**

**Jason Smith, LEED A.P.**

# Case Studies:

## *Gulistan Carpet (North Carolina)*

- **Boiler Upgrade – (6) 300 BHP units**
- **Placed into service – 2008**
- **Estimated avg. operating cost savings = \$288,000 / yr. (270,000 therms / yr.)**
- **Estimated avg. reduced CO<sub>2</sub> emissions = 1,350 metric tons of CO<sub>2</sub> / yr.**
- “We rely on steam for the dyeing process, and with previous steam boilers, we would have to wait at least two hours for steam to be produced. This resulted in labor inefficiencies and higher fuel costs. With the Miura boilers, we can have steam just a few minutes after startup. Since being installed, we estimate that we are saving an average of \$24,000 each month on labor and fuel costs. The Miura boilers have significantly improved the efficiency of our facility.”  
– *Jack Avant, Engineering Manager*
- “The Miura boilers have performed very well. We contacted several boiler companies, and we did not find a single competitor that could meet our requirements. Miura’s efficiency is essential to meeting our performance needs and the fuel savings and the labor savings are very important to our bottom line.” – *Avant*



# Case Studies:

## *Duke Raleigh Hospital (North Carolina)*

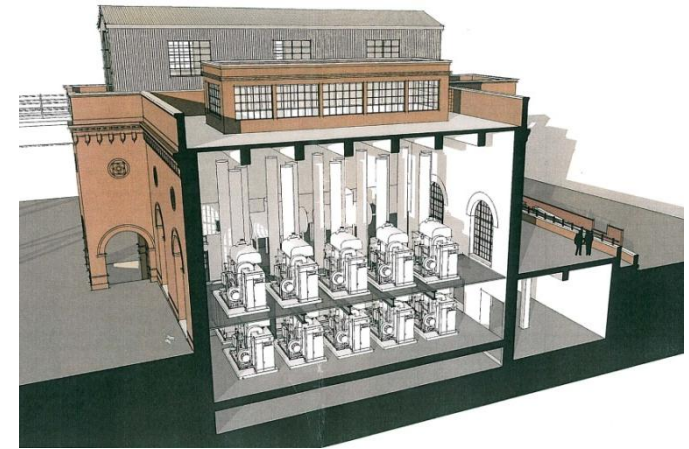
- **Boiler Upgrade – (2) 200 BHP units**
- **Placed into service – 2005**
- **Estimated avg. fuel cost savings =**  
**\$167,000 / yr. (156,000 therms / yr)**
- **Estimated avg. reduced CO<sub>2</sub> emissions =**  
**780 metric tons of CO<sub>2</sub> / yr**
- “We’ve had Miura boilers here for about three years. Our first two paid for themselves in about a year on fuel savings alone.” – *Clifton*
- “We found the savings with Miura over our previously-owned fire tube boilers, from one month to the next, was at least 1000 Decatherms.”– *Clifton*
- “The efficiency is essential to meeting our needs, the fuel savings are important to our bottom line. I’d highly recommend Miura’s boilers.” – *Clifton*
- “Miura boilers, because they are so small and efficient, have really put us way ahead of everybody around town – and this industry – on water conservation.” – *Shannon Clifton, Engineering Supervisor, Duke Raleigh Hospital*



# Case Studies:

## *Duke University (North Carolina)*

- **Boiler Upgrade – (15) 300 BHP units**
- **Replacement of Coal-burning Plant**
- **LEED-Gold Historic Building Restoration**
- **Placed into service – February 2010**
- **Estimated avg. reduced CO<sub>2</sub> emissions = **over 50,000 metric tons of CO<sub>2</sub> / yr.****
- Miura's technology provides a significant reduction in the energy losses associated with a typical start-up, purge, and warm-up cycle of a boiler." - *Russell Thompson, Duke University's Director of Utilities and Engineering for Facilities Management*  
(referencing the on-demand steam capabilities of the university's 15 new Miura LX-series natural-gas fired boilers, any one of which can be turned on or off as needed to meet the campus' ever-changing steam-generation demands while optimizing performance for increased efficiency and reduced environmental impact.)



# Case Study: *University of Arkansas*

- **Boiler Upgrade – (6) 300 BHP units replaced (3) existing 600 BHP Kewanee firetube boilers**
- **Summer “Peaking” Plant**
- **Placed into service – March 2008**
- **Reported energy savings = \$280,000 / yr**
- **Reported reduced CO<sub>2</sub> emissions = 1.2 million lbs. of CO<sub>2</sub> / yr**
- “On-Demand Steam is a great asset as it allows us to be able to spool the boiler up very quickly, and then take it back down offline when the load dies down is really helpful. Another advantage of the Miura boilers is that if, by chance, we lose a boiler for some reason, we only lose a sixth of our production capacity. If you lose a large boiler, you can lose it all. That additional reliability factor of a multiple installation of Miura boilers is also something we liked.”
- With the installation of the six Miura LX-300 steam boilers, the University of Arkansas has not only upgraded its physical plant with the advantages of On-Demand Steam and a reduced environmental footprint, it has also saved money.





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**Questions:**

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