

## THE JACKSON LABORATORY UTILITIES UPGRADE

BAR HARBOR, ME

### THE CHALLENGE

The Jackson Laboratory had received a \$1 million grant from Efficiency Maine to install a biomass-fired boiler system. Due to their stringent requirements for fuel storage, deliveries, and uptime, they needed a proven technology that would have a very low impact on their surroundings. Additionally, the Laboratory is located in close proximity to Acadia National Park, requiring plant emissions to meet Class-1 EPA standards.

### THE SOLUTION

PC Construction assembled a team of knowledgeable professionals in the energy field to collectively select a technology that would meet all of the Laboratory's requirements. The result of that effort will provide reliable steam heat utilizing pellet fuel with high energy density, allowing a reduction in storage area and deliveries while meeting or exceeding the EPA emissions requirements.

### DESCRIPTION

The heart of the selected biomass system is a suspension combustion burner. The locally-sourced pellet fuel is stored in a silo adjacent to the heating plant. Fuel is fed into the processing trains where it is pulverized into fine powder less than 1 millimeter in diameter. The powder is blown into the burners and combusted in a conventional D-type package boiler. The exhaust gas passes through a bag house that collects particulates. Since the refined pellet fuel is



typically less than 1% ash by volume, these particles remain suspended in the exhaust system, eliminating the need for a bottom ash system.

This project, currently under construction by PC Construction, includes the installation of two of these combustion trains that have a total capacity of 76,000 pounds of steam per hour. The project is the first of its kind in the United States.



**CONSTRUCTION**

[www.pconstruction.com](http://www.pconstruction.com)

100% EMPLOYEE OWNED