

April 14, 2008

Purdue to use more efficient method to construct new, cleaner boiler

WEST LAFAYETTE, Ind. - The Purdue board of trustees on Friday (April 11) approved constructing a new clean-coal technology boiler using a novel procurement method that can shorten construction time and lower costs.

Purdue will use the design-build method, which by Indiana law allows higher education institutions to hire a single contractor for both design and construction services. Typically, design and construction work are bid separately.

"Design-build allows price negotiation in the bidding process and allows a price to be fixed for the life of the project," said Joseph Mikesell, interim vice president for physical facilities. "The potential for greater budget control and shorter project duration made Boiler 6 an excellent candidate for design-build."

Erick Van Meter, interim senior director of utilities and construction, expects to present an acceptable contract on the project to the trustees by no later than January 2009. If approved, the three-year, \$53 million construction project could begin in March.

"Boiler Number 6 will help us meet the growing need on campus for heating, cooling and electricity while also reducing Purdue's impact on the environment," Van Meter said. "By burning limestone with the coal, chemical reactions occur that capture airborne pollutants efficiently and effectively."

The process, called circulating fluidized bed (CFB) technology, is already used in the plant's Boiler 5. It will allow Boiler 6 to capture more than 90 percent of the sulfur and mercury from the coal and would generate less nitrogen oxide emission than conventional boilers. Ninety-nine percent of the fuel burned at the Wade plant is Indiana coal, which typically has high sulfur content.

Van Meter said Purdue will save several million dollars in operating costs each year because the boiler can generate steam more efficiently and use less expensive coal. The "fuel flexible" CFB technology also will allow the boiler to burn environmentally friendly alternative biomass fuels when they become more readily available.

Robin Mills Ridgway, an environmental engineer in physical facilities' radiological and environmental management department, chairs the Purdue Sustainability Council, a campuswide organization that shares sustainability ideas. She said Purdue's gamble on Indiana's first and only CFB boiler in 1991 has paid off.

"The CFB boiler's superior environmental and operational performance is a tremendous success story for energy diversity and reliability," Ridgway said. "Investing in that technology once again reconfirms Purdue's commitment to remaining at the vanguard of conserving

resources."

The trustees approved the \$53 million financing for Boiler 6 last summer. The boiler will be the second design-build project on the West Lafayette campus.

Purdue physical facilities will select three design-build firms from those responding to a notice. Those three firms will then respond to a request for proposal and bid on the project based on the design criteria package. The proposals will then reviewed and ranked. After the price proposals are opened, the best total proposal will be selected and any needed negotiation will take place before the contract is awarded.

Purdue physical facilities has used the design-build method just once before, during a project to install new cladding material on Young Hall.

Writer: Jim Schenke, (765) 494-6262, jschenke@purdue.edu

Sources: Joseph Mikesell,, (765) 494-7327, jdmikesell@purdue.edu

Erick Van Meter, (765) 423-5951, eevanmeter@purdue.edu

Robin Mills Ridgway, (765) 496-6405, rmridgway@purdue.edu

Stephanie Boland, Physical Facilities communications coordinator, (765) 494-6916, seboland@purdue.edu

Purdue News Service: (765) 494-2096; purduenews@purdue.edu