

**PUBLIC UNIVERSITY  
NONINSTRUCTIONAL CAPITAL PROJECT APPROVAL**

**Submitted for:** Action.

**Summary:** This item recommends approval of the following public university noninstructional capital project:

<u>Eastern Illinois University</u>	
Renewable Energy Center-Pilot Project	\$ 80,000,000

**Action Requested:** That the Illinois Board of Higher Education approve the noninstructional capital project described in this item.



STATE OF ILLINOIS  
ILLINOIS BOARD OF HIGHER EDUCATION

**PUBLIC UNIVERSITY  
NONINSTRUCTIONAL CAPITAL PROJECT APPROVAL**

Legislation recently signed by Governor Quinn (P.A. 96-0016) gives Eastern Illinois University the authority to proceed with a Renewable Energy Center Pilot Project described in this item. The EIU Board of Trustees has approved the project and the University is now seeking Illinois Board of Higher Education approval in order to proceed. This item provides details regarding the project background, scope, financing, and schedule.

<u>Institution/Project</u>	<u>Total Estimated Cost</u>
1) Eastern Illinois University:	
A) Renewable Energy Center- Pilot Project	\$80,000,000

Background

Eastern Illinois University's coal-fired steam plant was built in the mid 1920s, and many of the mechanical systems are now obsolete and unreliable. The dual-alkali flue gas desulfurization system, or "scrubber" system, is the critical component in the process of cleaning and burning Illinois coal for energy production. Specifically, a functioning "scrubber" system is needed to reduce atmospheric pollutants and comply with Illinois Environmental Protection Agency (IEPA) sulfur dioxide emissions standards. Currently, the "scrubber" system is completely out of service due to the total failure of major portions of critical process equipment and the corrosion of tanks and piping. Repairs needed to bring the scrubber system and other steam production facility equipment up to operational standards would require a significant financial investment. In FY2010, the accumulated deferred maintenance for the steam production facility was estimated at approximately \$16.0 million. Without state funding support for the steam plant rehabilitation project, EIU has been forced to either burn natural gas or procure cleaner, low-sulfur, "air quality" coal from out-of-state sources. At this time, the use of low-sulfur, out-of-state coal is the University's most cost-effective option, although it is more expensive than using local coal, which must be cleaned first.

The university is working with the IEPA to explore acceptable emissions solutions. The proposed compliance commitment agreement with the IEPA includes development of a new, Illinois coal-fired plant utilizing current clean coal technology. However, the current location of the steam production facility places these basic coal burning, ash handling, and complex chemical processes adjacent to main campus arteries, creating a hazardous and undesirable environment for

students, faculty and staff. This is not conducive to the philosophy of creating a pedestrian-friendly campus, and it requires core campus vehicular access since coal deliveries and waste removal are necessary on a daily basis. Finally, the University has no electrical self-generation capability, which means the campus is entirely dependent on the outside utility grid to deliver essential electrical services. EIU has negotiated stable electric rates since the beginning of the industry deregulation transition. However, its contract with Ameren Energy Marketing expired in July 2006 and was replaced with market-based electrical supply from the deregulated Illinois market as of January 1, 2007. The deregulated electric market has resulted in a 35% increase in campus electric energy commodity costs. Internal generation of the University's electrical load would help mitigate high-cost electrical commodity market pressures for the next 50 years.

### Project Scope

To address the issues described above, EIU proposes to replace its existing steam production facility with a new combined heat and power (CHP) plant. The proposed plant will produce 100 percent of the steam needed and 7 percent of electricity. The steam production capacity allows for campus growth. The CHP plant will be multi-fueled with a variety of biomass feed-stocks, or natural gas or a mixture of the two. The proposed plant will meet and exceed the latest state and federal clean air standards. Emissions levels from a new facility would be lower, reducing overall site emissions as compared to the present permitted levels. The proposed location for the new plant is on property currently owned by EIU on the southeast corner of campus on Illinois Route 130. The project site is approximately 3,500 feet x 3,500 feet, and the energy facility building will be approximately 20,000 square feet.

After the new plant is commissioned and tested for reliability, the pollution control equipment behind the current plant will be torn down. At some point in the future, pending available funding and other considerations, the university anticipates converting the current plant into usable space, perhaps a student services building. The building itself will continue to participate in steam distribution to campus since most of the connections reside beneath the building.

In conjunction with this renewable energy center initiative, the university also plans to make a number of other upgrades and repairs to campus energy equipment and other energy-related measures on campus.

### Project Approval

On June 22, 2009, Governor Quinn signed Senate Bill 2009 (Public Act 96-0016) into law making changes to the Public University Energy Conservation Act. The Act previously defined "energy conservation measures" primarily as facility repairs and alterations designed to reduce energy consumption and/or operating costs. However, PA 96-0016 expands the definition of "energy conservation measures" to include a Renewable Energy Center Pilot Program at Eastern Illinois University. The Act includes unprecedented accountability and reporting requirements for EIU, including monthly reports to the Procurement Policy Board (PPB), monitoring by the Capital Development Board (CDB), and annual reports and a final report to the General Assembly, PPB, and CDB.

## EIU Board of Trustees Action

On June 22, 2009, the EIU Board of Trustees approved a new “green” bio-mass and natural gas combined heat and power plant to provide the EIU campus with an environmentally-responsible source of energy. The EIU Board of Trustees approved the project at a cost not to exceed \$80 million and plans to enter into a contract with Honeywell International, Inc. to oversee the construction and installation of agreed upon energy conservation measures. The project is designed to be self-funded over a period not to exceed 20 years from the date of the completion of the energy savings measures. Honeywell guarantees that the university will attain annual energy savings or operational cost savings equal to or greater than the annual cost of financing the project. Annual energy savings of less than the guaranteed amount will be supplemented by Honeywell and that supplement will be used to repay project financing costs. In addition, Honeywell will secure an insurance policy from a national insurance company to strengthen their guarantee.

### Project Cost

The \$80 million project cost estimate includes \$56.6 million for the renewable energy center building and equipment and \$23.4 million for upgrades and repairs to campus energy equipment and other energy-related measures on campus. See details below.

<u>Energy Plant Construction and Equipment</u>		<u>\$56.6 million</u>
Design and Commissioning	\$6.2 million	
Sitework and Foundations	\$4.9 million	
Building Construction	\$5.7 million	
Fuel Handling Equipment	\$6.2 million	
Mechanical	\$8.6 million	
Electrical, Turbines, etc.	\$3.8 million	
Steam Tunnel	\$10.0 million	
Bio-Mass Boilers	\$11.2 million	
<u>Upgrades and Repairs</u>		<u>\$23.4 million</u>
Chilled Water Loop Modifications	\$ 6.8 million	
Window Replacements	\$ 6.2 million	
New 69 kV Switchyard & Lighting Retrofits	\$ 5.3 million	
Retro-commissioning, Building Envelope Sealing	\$ 1.4 million	
Insulation, Heat Exchange, Transformers, Feeds	\$ 1.2 million	
Water Retrofits, Occupancy Sensors, Heat Recovery	\$ 1.0 million	
Fine Arts Retrofits	\$ 0.9 million	
Investment Grade Audit	\$ 0.6 million	
TOTAL		<u>\$80.0 million</u>

### Financing Details

To facilitate a funding mechanism whereby this project could proceed without additional state or local funding, EIU pursued legislation that allows the project to be conducted using an energy service company, or ESCO, which typically involves the use of savings in energy costs to pay back a capital investment over a period of time. The university will continue to budget for utilities at the current level. Upon completion of the energy conservation measures, the money

the university will save on utility bills will be used to pay the annual debt service. As mentioned earlier, Honeywell International, the university's Energy Services Company, provides the guarantee that the university's energy savings will cover the cost of the project and will provide an insurance policy (performance bond) backing their guarantee.

The university plans to sell approximately \$85 million of Certificates of Participation (COPs) in order to net the \$80 million needed to complete the project. The university is anticipating an interest rate of 4.55 percent, which could fluctuate due to market conditions and the state's credit rating. The EIU Auxiliary Facility System will pay 57.95 percent of the debt service, and 42.05 percent will be paid using General Funds. Debt service in FY10 is projected to be \$714,616; it increases each year thereafter until it reaches a fairly stable figure of approximately \$6.6 million in FY2017. Since this project is funded using COPs, there is a security interest in the assets being developed with the proceeds.

Under the Public University Energy Conservation Act, the project must pay for itself in 20 years. EIU's projections show that cumulative energy savings will meet the project cost in FY2024 and the total project cost, including financing costs, in FY2031. However, in order to make the debt service payments more affordable, the University has elected to pay for the project over 27 years. The State University Certificates of Participation Act allows universities to use COPs financing for projects up to 30 years in duration.

#### Project Schedule

The renewable energy center project will begin in the fall 2009 with an expected completion date of fall 2011. The project schedule is outlined below. Dates with an asterisk are approximate.

Legislation Approved	June 22, 2009
EIU Board of Trustees Approval	June 22, 2009
IBHE Approval	August 11, 2009
Issue Debt*	October 1, 2009
Break Ground*	Late Fall 2009
Phase I Construction*	Summer 2010
Completion of Energy Conservation Measures*	Fall 2010
Completion of Renewable Energy Center*	Fall 2011

#### **Recommendation**

Staff has reviewed this project and found it to be in accordance with the Board's *Noninstructional Capital Project Guidelines*, approved by the Illinois Board of Higher Education in August 2002, and administrative rules. The project is consistent with the mission and scope of the institution; provides needed additional, replacement, or more efficiently utilized space; and is economically feasible, as required by administrative rules.

The staff recommends adoption of the following resolution:

*The Illinois Board of Higher Education hereby approves the noninstructional capital project included in this item.*