**Illinois State**

**University**

**Board of**

**Trustees**

**Resolution No. 2017.01/03**

**Julian Hall –**

**Data Center Renovation**

**Resolution**

Whereas, Julian Hall is a facility owned and operated by Illinois State University that houses the University’s core data center, classrooms for Chemistry and departmental offices for Biological Sciences, Chemistry and Administrative Technologies, and

Whereas, the mechanical, HVAC and fire suppression systems serving the University’s Data Center are no longer adequate, and

Whereas, a capital project is needed to renovate and upgrade the data center space, including upgrading the data center’s mechanical, HVAC and fire suppression systems;

Therefore, be it resolved that the Board of Trustees authorizes a capital project for renovating the Julian Hall Data Center and upgrading the data center’s mechanical, HVAC and fire suppression systems, including establishment of budgets, appointment of architects and engineers, development of required design and construction documents, awarding public bids and undertaking of construction.

Therefore, be it further resolved that the Board of Trustees authorizes expenditures not to exceed $1.2 million for this project.

Board Action on: Postpone:

Motion by: Amend:

Second by: Disapprove:

Vote: Yeas: Nays: Approve:

ATTEST: Board Action, January 13, 2017

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Secretary/Chairperson

**Board of Trustees**

**Illinois State University**

**Supplemental Information for Julian Hall Data Center Renovation**

This item requests Board of Trustees approval for a $1.2 million project to renovate the area housing the University’s Data Center in Julian Hall.

**Background**. Julian Hall houses the University’s core data center, classrooms for Chemistry, and departmental offices for Biological Sciences, Chemistry and Administrative Technologies. Since the building opened in 1970, the needs of the data center operated by Administrative Technologies have changed substantially. Large, bulky “main frame” equipment and reel-to-reel magnetic tape storage devices that generated low heat loads and were tolerant of heat and humidity extremes and power fluctuations have been replaced with “blade servers” and “power distribution and conditioning” equipment that generate extremely high heat loads. The new equipment is very sensitive to extremes (i.e. heat and humidity) in environmental conditions and power quality fluctuations and outages. Furthermore, the existing mechanical and fire suppression equipment serving this data center is original to the building and obsolete. As a result of these changes in requirements, coupled with the very poor condition of the HVAC system and the obsolescence of the existing fire suppression system, renovation of this space with new systems is necessary.

**Project Scope.** The area housing the Data Center requires a new HVAC system, space envelope improvements and upgrades, a new fire suppression system, new security cameras, new lighting and power system upgrades.

The original data center HVAC design distributed heating and cooling via a duct from the central building HVAC system. Original data room heating and cooling were delivered through diffuser grilles placed in a dropped ceiling in the data room. The Data Center today requires continuous dedicated cooling because of the high equipment density and the extremely high heat output and environmental quality sensitivity.

Cooled conditioned air will be derived from the University’s central chilled water loop system. The existing data room will be reconfigured and compartmentalized into two main parts; 1) data storage comprised of data servers and 2) power distribution and conditioning including power reserve units. The proposed new cooling system will deliver cooling within a contained in-row cooling system that is custom designed and tailored to the power and server equipment environment. It essentially will focus cooling to areas where the heat is being generated for maximum efficiency. The new system will have 100% redundancy in the event of a system failure. The infrastructure will also be designed to accommodate future expansion.

The Data Center will remain fully functional for the duration of this project. All appropriate steps and necessary precautions will be taken to maintain data system functionality and reliability within specific environmental requirements.

# **Resource Requirements**

Construction $1,000,000

Design Fees 100,000

Contingency 100,000

Total Project Cost $1,200,000

Source of Funding: General Revenue Operating Funds