

**DTE – PLD Electrical Infrastructure Conversion
Design Authorization**

Recommendation

It is recommended that the Board of Governors authorize the President, or his designee, to award contracts to begin design phase activities for the eventual construction of several building electrical infrastructure upgrade projects to support converting buildings that were formerly fed from the Detroit Public Lighting Department (PLD) to Detroit Edison Company (DTE), and to provide additional electrical capacity for an initial cost not to exceed \$800,000. Funding for this effort will be provided by borrowing from the Cash Pool, with repayment provided by future bond proceeds that would be secured for the purpose of implementing this project.

Background and Project Description

PLD previously supplied electrical power to 44 of the University's buildings, representing over half of the electricity consumed by the University annually. The PLD infrastructure, historically known for being unreliable, has caused numerous power outages that have impacted every aspect of normal operations, including the University being forced to cancel classes and close. On July 1, 2014, PLD ceased to exist as an electric utility provider, and DTE assumed responsibility to supply electric power to all former PLD customers. The transition of service responsibility to DTE includes their commitment to replace the PLD infrastructure that supplies electricity to the University and other former PLD customers. The scope of this conversion involves constructing two new electrical substations that will support the MidTown area, installing new underground conduits and cables, and new above ground transformers and switching equipment to each of the former PLD buildings. Except for two electrical capacity upgrades noted below, DTE is responsible for the total capital cost to accomplish this conversion.

Of the 44 University buildings to receive new electrical service from DTE, five would ideally have portions of their electrical systems upgraded at the same time. The Engineering Building, State Hall, Life Science, Science and Engineering Library, and Shapero Hall each have components of their electrical infrastructure that are obsolete, antiquated, out of code compliance, and / or beyond their useable service life. In some cases, service components are no longer available. The administration is requesting approval to advance the design to eventually replace these deficient conditions.

Additionally, the existing electric service to the University's Computing Center is at maximum capacity, and the data center's HVAC and power systems are obsolete and well beyond their service life. In recent years, several projects have been implemented to reduce electrical consumption to prevent overload conditions, and to delay the costly necessity of an electrical upgrade. However, that necessity can no longer be delayed. As a result, the administration is also requesting approval to advance the design to replace and upgrade to a larger electrical service, inclusive of the building's primary switch gear and critical uninterruptible power supply that supports the main data center. Similarly, the Athletic Complex has severe electrical power capacity constraints which

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now prevent any further expansion without a significant new electrical substation being constructed. While DTE will pay to replace existing electrical services of identical capacity, they will not pay for larger service upgrades like that needed for the Computer Center or for future development on the Athletic Complex.

The conversion of the University's 44 buildings to new DTE services is expected to take place in multiple phases during the next three years. In late summer or early fall of 2016, DTE will construct new underground duct banks and conduit pathways around the perimeter of campus, mostly on Warren Avenue and Anthony Wayne Drive. Facilities Planning and Management continues to coordinate design plans with DTE to determine whether any on campus pathway construction will occur during 2016, but at this time none is anticipated. During 2017 and 2018 steps will be taken to physical connect each building to new electrical services from DTE. This construction will impact the campus as additional underground pathways are established from the street or pedestrian malls to each building where new cable will be connected to transformers and switch cabinets, many of which will be installed outside, adjacent to the building. To minimize the visual impacts of the transformers and switch cabinets, many will be located behind new screen walls, and at McGregor, an underground vault will be constructed to accommodate the DTE equipment leading to McGregor, Law and the Education Building. With the exception of those buildings supported by full building backup generators, each building will also experience a temporary shutdown during the cable connection process. In the five buildings proposed to receive electrical equipment upgrades, the electrical shutdown durations will be very carefully coordinated to minimize operational impacts, and every effort will be made to support each conversion with a temporary electrical generator.

The total project cost to implement these electrical infrastructure upgrades is estimated at \$11.0 million and is summarized as follows.

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| • Computer Center Capacity Upgrade | \$6,300,000 |
| • Athletic Complex Capacity Upgrade | \$1,800,000 |
| • Building Electrical Equipment Replacement | \$1,700,000 |
| • McGregor Vault | \$400,000 |
| • Design Fees | \$800,000 |

This initial proposal requests approval of only the design fees. The administration plans to design this work and then solicit competitive bids before requesting construction approval. We anticipate requesting construction approval next winter and implementing the work to coincide with DTE's infrastructure replacement schedule during 2017 and 2018. Bond proceeds are expected as the funding source for this work, and approval to issue general revenue bonds will be requested at a future date yet to be determined.

All contracts will be awarded in accordance with University policies and procedures.