



# University of Toronto

Appendix "F" of  
Report Number 142 of the  
Academic Board  
March 30, 2006

Office of the Assistant Vice-President, Space and Facilities Planning

**TO:** Planning and Budget Committee

**SPONSOR:** Elizabeth Sisam, Assistant Vice-President Space and Facilities Planning

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**DATE:** February 13, 2006 for February 28, 2006

**AGENDA ITEM:** 7

Project Planning Report for Electrical and Mechanical Infrastructure Upgrades Phase 5: A. Boiler Controls, B. New Generator and C. PCB Transformers at the University of Toronto at Scarborough.

### JURISDICTIONAL INFORMATION:

Under the *Policy on Capital Planning and Capital Projects*, the Planning & Budget Committee considers annual infrastructure renewal plans and, from time to time, special projects which address extraordinary and/or urgent needs to support the infrastructure of the University.

### PREVIOUS ACTION TAKEN

The Campus Master Plan for UTSC was approved in May, 2001, identifying a plan for campus development which included the construction of several new buildings to accommodate projected increases in student enrolment. The existing electrical and mechanical infrastructure was assessed to evaluate their capacity and condition. The consultants identified several potentially critical conditions and deficiencies, and made recommendations for replacement and upgrading of these systems to ensure dependable service for the foreseeable future. In response, the UTSC developed a multi-phase plan to replace and upgrade the infrastructure at UTSC. This plan is detailed in the Project Planning Report, which has been before this Committee for approval of earlier phases.

The multi-phase plan identified a defined set of high priority projects that required immediate attention. Projects identified as Phases 1A, 1B, 2A and 2B are tabulated below and have previously been reported to Planning and Budget in the regularized annual AFD reporting as required by policy. Phases 3 and 4 have been approved by the Planning and Budget Committee as they each exceeded the \$2 million limit for projects considered by AFD. All approved reports are available upon request.

<u>AFD Approval Phase</u>	<u>Project Title</u>	<u>Cost of the Project</u>
May 9, 2003	Phase 1A Electrical Distribution Switch	\$ 451,000
January 30, 2004	Phase 1B De-aerator for heating / Asbestos	\$1,675,000
January 30, 2004	Phase 2A Electrical Distribution and Indoor/ Outdoor Switchgear Replacement	\$1,660,000
January 30, 2004	Phase 2B Mechanical Infrastructure – New Boiler / Asbestos	\$1,505,000
 <u>Planning and Budget Approval Phase Project Title</u>		
December 2004	Phase 3 Cooling Towers	\$2,515,000
September 2005	Phase 4 New Chiller	\$2,919,000

**HIGHLIGHTS:**

Numerous infrastructure needs related to both the electrical and mechanical systems at UTSC have required urgent attention in the past 36 months and extensive construction has occurred on the UTSC campus, with each of the five new major buildings requiring adequate electrical and mechanical services to ensure effective operation. A considerable portion of these expenditures relate to the additional demands of the new buildings as well as the replacement of systems that partially address deferred maintenance issues. Phase 5, is required by the New Science Building

**FINANCIAL AND/OR PLANNING IMPLICATIONS:**

UTSC has already directed a total of \$10,725,000 towards Phases 1, 2 3 and 4 of the initially projected \$17.351 million infrastructure upgrades plan at UTSC. The three separate projects which constitute Phase 5, the boiler controls, diesel generator and PCB transformers, will require an additional \$4,530,000. Funding for Phase 5 is as follows:

UTSC New Science Building Project, the Enrolment Growth Fund and UTSC's Operating Deferred Maintenance Funds.

UTSC New Science Building Project	\$3.785 m
Enrolment Growth Fund	\$.320 m
Deferred Maintenance Funds	\$.425 m
<b>Total</b>	<b>\$4,530,000</b>

The implementation of Phase 4 (previous approval) reduced the overall number of phases of infrastructure upgrades from the six identified in the Phase 4 Report to five and reduces the original projected total cost of the upgrades of \$17.351 reduced in Phase 4 to \$15.672, further to \$15.255 million. These changes are possible because Phase 5C, replacement of PCB transformers has made Phase 6 unnecessary. Approval of the project is required now to allow for heating and emergency power backup for the New Science Building scheduled to open in January 2008, as well as meeting the federal legislation regarding PCB removal. The work will be implemented in the 2006-07 fiscal year. (Table 1 attached)

**IMPACT ON THE CAPITAL PLAN EXPENDITURES:**

No borrowing of funds has been directed to this phase of the project or the previous phases. The need for these infrastructure upgrades is absolutely necessary to support the new Science Buildings at UTSC addressed within the Capital Plan.

**RECOMMENDATIONS:**

That the Planning and Budget Committee recommend to the Academic Board:

1. THAT the Project Planning Report for the Electrical and Mechanical Infrastructure Upgrades at the University of Toronto at Scarborough, Phase 5, comprising the replacement of the existing electronic controls for the two existing boilers, the replacement of the existing 200kw diesel generator, and the replacement of the 6 existing PCB transformers be approved in principle at an estimated total project cost of \$4.530 million.
2. THAT the following sources of funding for the UTSC Phase V Infrastructure be approved:
  - a) Funding identified for the new UTSC Science and provided by the UTSC operating budget \$3.785 million
  - b) Enrolment Growth Fund \$ .320 million
  - c) Deferred Maintenance Funds \$ .425 million