UNIVERSITY OF TORONTO

OFFICE OF THE ASSISTANT VICE-PRESIDENT
CAMPUS & FACILITIES PLANNING

APPENDIX "A" TO REPORT NUMBER 134
OF THE PLANNING AND BUDGET
COMMITTEE – January 18, 2010

TO: Planning and Budget Committee

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

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DATE: Dec 14, 2009 for January 18, 2010

AGENDA ITEM: 3

ITEM IDENTIFICATION:

Project Planning Report for the Renovation of Chemistry Undergraduate Teaching Laboratories at the University of Toronto Mississauga (Phase 2).

JURISDICTIONAL INFORMATION:

Under the Policy on Capital Planning and Capital Projects, the Planning & Budget Committee reviews Project Planning Reports prepared for a capital project and recommends to the Academic Board approval in principle of the project.

BACKGROUND:

The existing chemistry laboratories at UTM have been in service since 1970 and have undergone essentially no renovation or modernization since that time. Each room was designed to accommodate 24 students at a time for a total of ~600 students per 5-day week. Today the laboratories must accommodate more than twice that number of students. As a result, laboratory classes have been scheduled on a number of evenings, on Saturdays and laboratory instructional hours for students, particularly first-year students, have been reduced. Upper year laboratory sessions and the type of experiments performed have been restricted by the number and location of fume hoods.

HIGHLIGHTS

In 2008, the UTM Chemistry programs were assessed for renewal of accreditation by the Canadian Society for Chemistry. Recommendation 1 of the accreditation report focused on the undergraduate teaching laboratories. It cautioned that failure to renovate these laboratories and increase the space available for instruction "may jeopardize the accreditation of the programs" and will "ultimately affect the UTM graduate student population". In 2009, the Department of Chemical and Physical Sciences underwent an external review. The resulting report stated that it was essential that renovations to UTM's crowded and inadequately vented undergraduate laboratories be "given the highest priority" and "completed as soon as possible." Thus, two independent assessments identified undergraduate chemistry laboratories as being substandard and in need of immediate attention.

Our vision is to accomplish these renovations and secure the competitiveness of UTM's Chemistry programs with those of the St. George campus and of other universities across Canada. We also see this as an opportunity to pursue one of the goals of the initial departmental plan and advance a more constructivist pedagogy in our courses defined by integrated laboratory work and problem–based learning.

Design of the new laboratory space will allow for the elimination of Saturday and most evening classes and for the restoration of 3 hour laboratory sessions in first–year Chemistry required for CSC accreditation. The improved and increased number of fume hoods will expand the nature of the experiments that can safely be performed (in particular, for the inclusion of more organic chemistry in the first–year curriculum). Together with the Phase 1 renovations, Phase 2 will allow for strict adherence to best practices in chemical health and safety standards for students and staff and will thereby allow for improved training in this area, training that is compatible with the needs of chemists in modern commercial and government laboratories.

Space for the proposed renovation, is limited to the area of the existing laboratories and their support space and dedicates an entire 900nasm in the main laboratory block for teaching. The 1st and 2nd Year Chemistry teaching laboratory in 600 sq.m.; the Upper Year Chemistry Teaching Laboratory in 300 sq.m. and 60 nasm of laboratory technician workstations and offices.

FINANCIAL AND PLANNING IMPLICATIONS

The estimated total project cost is $4.24 million dollars.

In terms of operating cost the cost of electrical power to operate the large number of additional fume hoods will be offset by incorporation of a variety of "green" initiatives. The two most significant once are 1) the ability to turn off the fume hood fans when not in use instead of the current 24/7 operation, and 2) utilization of re-circulating chilled water for cooling of all chemistry experiments rather than utilizing domestic cold water.

FUNDING SOURCES

The project will be fully funded from the UTM Operating budget.

SCHEDULE

The Renovation of the Chemistry teaching laboratories – Phase 2 will be undertaken in the spring and summer of 2010 with occupancy September 2010.

AFD Approval to hire consultants	December 11, 2009
Consultant Selection and Design	December-January 2010
Planning and Budget Meeting	January 18, 2010
Business Board Meeting	February 8, 2010
Laboratory Bench/Fume Hood Tender	February 2010
Permit Application	February-March 2010
General Tender	March 2010
Construction	April-August 2010
Occupancy	September 2010

The proposed schedule is based on advanced planning to allow for construction to commence in April immediately after classes finish. It is essential for construction to be completed by the end of August because UTM does not have an alternate location to accommodate Chemistry practical courses.

RECOMMENDATIONS

It is recommended that the Planning and Budget Committee recommend to the Academic Board:

1. That the Project Planning Report for the University of Toronto Mississauga Renovation of Chemistry Undergraduate Teaching Laboratories be approved in principle.

2. That the project scope, comprising renovation of 958 nasm in the South Building at a total project cost of $4.24 million be approved with the full funding from the University of Toronto Mississauga operating budget.