



**Plan for the Operation and Maintenance of Infrastructure
funded by Canada Foundation for Innovation (CFI)**

August 2013



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1 Introduction and Definitions

McGill University has been fortunate to receive substantial investment from the Canada Foundation for Innovation (CFI) and the Government of Quebec for research infrastructure enriching the research capacity. As recipient of funds to establish new and upgrade existing research infrastructure platforms, the University is committed to providing operating and maintenance (O&M) support for CFI-funded infrastructure at McGill University and its affiliated hospital-based Research Institutes. This plan describes the overall strategy and operative guidelines for O&M support of CFI-funded infrastructure.

The infrastructure operational fund (IOF) allocated by CFI is an institutional award and, as specified in CFI program guide “Each institution is responsible for deciding how their funds will be divided among projects eligible to receive IOF. Institutions can distribute their IOF allocation based on actual operating and maintenance needs, as opposed to allocating the exact amount to the project that generated it. This offers institutions maximum flexibility to support projects with different needs and scope, while ensuring accountability.” (CFI Policy and Program Guide, March 2012, Section 2.3)

The objectives of this O&M Plan are to:

- Optimize the use of available resources for O&M.
- Facilitate access to O&M funding by individual Project Leaders.
- Provide guidelines for multi-year planning and monitoring of O&M needs across the University over the infrastructures’ lifecycle.

This plan outlines the guiding principles for allocation of funds for O&M, the planning and decision process, as well as roles and responsibilities. It covers McGill University and the affiliated hospital-based Research Institutes. The plan will be reviewed every three years and adjusted when deemed necessary. Consultation preceding adoption of this plan is listed in Appendix 1.

Definitions

CFI-funded infrastructure is the “Equipment, scientific collections, computer hardware and/or software, information databases and communications linkages used or to be used primarily for carrying out research. This includes housing and installations essential for their use and servicing.” (CFI Policy and Program Guide, March 2012, Section 1.2)

Operation and maintenance support includes advanced technical support for equipment and core facilities, materials, supplies and utilities as well as routine maintenance and interventions needed to ensure sustainability.

Useful life of CFI infrastructure is considered to be the period of time over which the infrastructure is expected to provide benefits and be usable for its intended purpose as described in the CFI funding application, factoring in normal repairs and maintenance. Useful life is not equivalent to physical life.

Project Leader (PL) is the lead researcher responsible for the CFI infrastructure (sometimes named PI – Principal Investigator). The PL is the scientific leader of the research program proposed for awarded CFI projects. The PL might be the sole user of the infrastructure or share with several other users.

An overview of acronyms used in this document is provided in Appendix 2.

2 Planning Process and Sources of funding for Operation and Maintenance

2.1 Planning the operation and maintenance at the application stage

An infrastructure application to CFI includes a section where the O&M plan for the project is described along with an approximate budget for the first five years of use. This section is an important starting point for the assessment of needs, available resources, and sources of funding for the O&M. Applicants to CFI have the primary responsibility for development of the plan but can count on the dedicated support from various units across the university.

First, applicants are encouraged to work closely with the administration in the Department and Faculty (or Research Institute) where the infrastructure will be installed to develop a comprehensive plan for the entire lifespan of the infrastructure, from installation to decommissioning.

Second, central support services, in particular the Office of Research and International Relations (RIR), Facilities Operation and Development (FOD), and Research Financial Management Services (RFMS), will provide guidance and advice, templates, coordinate resources, undertake analysis and cost assessment, and will offer assistance throughout the development of the proposal to CFI.

The Institutional and Strategic Initiatives unit (ISI) in the RIR is the point of contact for applicants for coordination of efforts during the development of a CFI application, award finalization, and reporting.

2.2 Decision making process at the award finalization stage

Once a project is approved for funding, CFI requires an updated budget (award finalization documentation) to determine the exact amount of the award and to release the funds. At this time, the PL is responsible for reviewing and updating the O&M plan and for communicating with the Department, Faculty (Research Institute), and central administration (RIR). The Head of each entity will review the plan and proposed commitments to ensure that O&M funds are available as described in the plan. In completing the CFI Award agreement, the University confirms its commitment to provide resources for O&M of the awarded infrastructure.

2.3 Sources of funding for Operation and Maintenance

Funding for O&M expenses stems from multiple sources which can be internal or external to the University. It is a joint responsibility of the institution, the PL and other key users, the host Department, Faculty, or affiliated Research Institutes, to provide sufficient funds for the O&M of CFI-funded infrastructure.

Descriptions of commonly pooled sources of funding to ensure optimal use of CFI-funded infrastructure:

CFI Infrastructure Operating Fund (IOF)

The IOF covers a portion of the O&M costs. An institution's IOF allocation is based on the CFI contributions for eligible projects. All projects approved by the CFI Board of Directors after July 1, 2001, are eligible to receive IOF, with the exception of projects funded under the Canada Research Chairs Infrastructure Fund and the international funds. All eligible projects generate an IOF allocation corresponding to 30 percent of the CFI portion approved at award finalization. *Example: If a \$1M project received a \$400,000 CFI contribution, that project generates \$120,000 towards the institution's IOF.*

CFI states that "Each institution is responsible for deciding how their funds will be divided among projects eligible to receive IOF. Institutions can distribute their IOF allocation based on actual operating and maintenance needs, as opposed to allocating the exact amount to the project that generated it" (CFI Policy and Program Guide, March 2012, Section 2.3). McGill's principles and process for allocation of IOF is further described in section 4.

Institutional funds

On a case-by-case basis, the unit housing the equipment (e.g. Department, School, or Institute), in collaboration with the Faculty/Research Institute will decide whether institutional funds are justified. Evaluation of the need for operational support will ideally be made at the application stage and all commitments of institutional contribution confirmed at the award finalization stage. Institutional funds may cover cost for renovation of space, acquisition of equipment, and installations as well as on-going operation and maintenance.

The ability to make these commitments depends on the availability of funds and need assessment and the decision of committing funds is the prerogative of the unit Head (such as the Chair of a Department or a Dean of a Faculty).

Indirect cost of research

The University, or affiliated Hospital-based Research Institute, is responsible for covering utility costs related to electricity (e.g. lighting, heating, cooling), security, health and safety, custodial services, etc. of its research facilities. A small portion of the IOF is allocated to these expenses. University Services is managing the operations of all facilities on the McGill campuses which include the laboratories housing CFI-funded infrastructure.

Research grants and contracts

When eligible on operating grants, the Project Leader and other key users of the infrastructure are expected to contribute a portion of their research grants and contracts to the O&M expenses of the infrastructure. The amount and mechanisms for the contribution is project-specific and will primarily be determined by the PL and other key users. At the application stage, the O&M plan for a specific CFI project may include estimations of future grants and contract and is subject to revision once the project is awarded. Key users are encouraged to apply for grant programs that specifically supports O&M expenses, for example the strategic network program (*Regroupement Stratégique*) offered by Quebec funding agencies.

User fees

Users of the infrastructure may contribute funding to cover for the O&M costs through fees. The mechanism for user fees (rates, applicability, and management) depends on the context of the infrastructure and cannot be standardized. Where user fees are deemed suitable, it is recommended to establish a model of at least two levels of fees – academic users (internal/external) and other external (industry) users. The Office of Sponsored Research and Financial Services can offer guidance and assistance to set up a user fee system.

3 Guiding Principles

- McGill is committed to provide O&M support during the useful life of the CFI-funded infrastructure through allocation of financial support and efforts to secure funds from multiple sources.

- On-going O&M for state of the art research infrastructure is a collective institutional, provincial, and federal effort.
- The Office of the Vice-Principal, Research and International Relations(OVP-RIR) oversees McGill's institutional responsibility to provide O&M support and coordinate contributions from all levels of the institution including the PL, relevant units (Department, School, or Institute), Faculties, and affiliated hospital-based Research Institutes.
- Specific agreement between McGill and each of the affiliated hospital-based Research Institutes defines the terms for oversight of O&M needs and management of the IOF allocation for CFI-funded infrastructure located at the hospital facilities.
- Prior to the submission of an application to CFI, a comprehensive O&M planning including a needs assessment is carried out. The plan will reflect the best possible understanding of O&M needs, realistic costs, and available sources of funding.
- The OVP-RIR manages the IOF in a way that is transparent, need-driven, fair, and cost effective.
- The PL, the Heads of relevant units (Department, School, or Institute), the Deans, and the VP-RIR recognize that the institutional IOF allocation is not sufficient to support the O&M expenses, and that leveraging of other sources of funding under their control is paramount to ensure optimized functioning of CFI-funded infrastructure over its useful lifetime.
- The O&M plan and need for funding may change during the course of the infrastructure's useful lifetime. In order to adapt to unexpected variations in context and usage, the on-going institutional support for O&M, including IOF, must be flexible.

4 Allocation of Infrastructure Operating Funds (IOF)

4.1 Overview

The IOF helps cover a portion of the O&M costs to ensure optimal use of CFI-funded infrastructure. An institution's IOF allocation is based on the CFI contributions for projects which are approved by the CFI Board of Directors. Each project generates an IOF allocation of 30 percent of the CFI amount approved at the award finalization. CFI does not require matching funds for IOF awards and there is no holdback. Although the IOF is an important source of funding for O&M, it is nonetheless a joint responsibility by the Institution, users, and housing unit to provide sufficient funds for the operation and maintenance of CFI-funded infrastructure as described in 2.3.

4.2 Definition and Eligibility

Eligible costs to be claimed under IOF include costs directly associated with operation of the CFI-funded infrastructure once it is installed and fully functional. As with other CFI funds, all expenditures claimed must be prorated to include only research and not teaching or communication activities.

Examples of eligible costs include technical personnel, maintenance or service contracts, supplies needed to run the infrastructure, and services to support the infrastructure such as electricity, heating, and security. Examples of ineligible costs include; purchasing of new equipment, installation, direct cost of research (such as support for graduate students and Postdoctoral fellows), administrative and secretarial services not directly related to the operation of the infrastructure, faculty salary, upgrades, publications, software site licenses, and conference expenses. See the CFI Policy and Program Guide, Section 4.6 for details on eligibility.

4.3 Allocation model

McGill allocates its IOF to key users and service units based on the need for O&M resources. Under the oversight of the VP-RIR, the following mechanism applies to the allocation of institutional IOF:

4.3.1 CFI Infrastructure located at McGill University campuses

The IOF generated by CFI projects at McGill is shared between the users of the equipment and central operations of the buildings and facilities base on the following ratio:

- 2/3 portion is accessible by users to ensure adequate operation and maintenance of the equipment.
- 1/3 is managed centrally:
 - 60% is allocated to a *Reserve Fund* to cover for unexpected costs of O&M for CFI-funded infrastructure. This portion is administered by the VP-RIR and is fully transferred to users of equipment as further described in section 5.
 - 40% is contributing to facility utility expenses related to the CFI-funded infrastructure such as electricity. This portion is administered by Facilities Operation and Development.

In order to optimize the impact of the available IOF, the portion allocated for users is adapted to the scale of the infrastructure project, i.e. major-scale vs. smaller-scale projects. This will not only facilitate the access of funds by users of the infrastructure, it will also streamline the administration of the IOF including reporting to CFI, account openings, and transfer of funds. A designated Project Leader may at any time decline or request a reduced amount of IOF if 2/3 is deemed more than needed. The declined funds will then be added to the Reserve Fund to support other CFI-funded projects.

Major-scale projects

Equipment platforms funded under the major CFI competitions (New Initiatives Fund and Leading Edge Fund) usually require an O&M strategy that is adapted to the context of the projects. Given the scale of these projects, the IOF generated per individual project is in most cases sufficient to fully support specialized technical support staff over several years. Therefore the designated Project Leader has direct authority over the portion aimed for the users (2/3 of the IOF) and is responsible for operating expenses over the useful lifespan of the infrastructure in accordance with the O&M plan presented in the application to CFI.

Smaller-scale projects

The IOF portion by projects for smaller projects (Leaders Opportunity Fund) is usually not sufficient to cover technical support staff longer term. Therefore, the Faculty of the lead PL has the option of pooling IOF generated by several projects and coordinate O&M support for several CFI-funded projects. A Faculty may delegate this to the Department, School, or Research Centre where the infrastructure is housed.

Advantages of a Faculty approach:

- Optimize resources, for example pooling funds for several projects to allow hiring technical support staff with adequate skills who can serve several CFI-funded installations for longer periods of time.
- Facilitate access to funding for the PL and lighten the administrative responsibilities in particular tracking of expenses, record keeping, and reporting requirement.
- Streamline the roles and responsibility already in place for LOF allocation and allow Faculties to plan for the lifespan of the infrastructure installed in their facilities.

Overview of IOF allocation – Administration responsibility:

IOF portion	Major-scale projects	Smaller-scale projects
<ul style="list-style-type: none">• 2/3 for users	Designated Project Leader	Faculty of the designated Project Leader
<ul style="list-style-type: none">• 1/3 – 60% Reserve Fund	VP-RIR	VP-RIR
<ul style="list-style-type: none">• 1/3 – 40% Facilities	Facilities Operation and Development	Facilities Operation and Development

4.3.2 CFI Infrastructure located at Affiliated Hospital-based Research Institutes

Administration and oversight of CFI-funded infrastructure located at affiliated Research Institutes (RI) are managed collaboratively between McGill and the RI. The details of the roles and responsibilities are outlined in an inter-institutional agreement specific to each RI. These specific agreements include guiding principles for the oversight of O&M and the management of IOF and cover the following areas:

- Designated administrative centre
- Roles and responsibilities of each institution
- Long-term operation and maintenance plan
- Sharing of funds between institutions (including IOF)
- Access to the infrastructure

Unless specified otherwise in the RI specific agreement, McGill is responsible for the pre-award administration of CFI projects and oversight of institutional envelopes and is the point of contact with CFI. The post-award administration is shared between the RI and central and the IOF is managed according to the division of responsibilities and specified in the agreement.

In cases where awarded infrastructure is located on both McGill campus and RI-location, the division of the IOF will be shared according to the infrastructure award ratio on a pro-rated basis in accordance with the project's approved itemized list.

4.3.3 CFI Infrastructure located at partnering organizations

In general, partner institutions may claim a portion of the generated IOF associated with the project based on a pro-rated basis of the value of the infrastructure acquisition. Roles and responsibilities as well as resource allocation related to O&M must be agreed upon in writing in an inter-institutional agreement.

5 Institutional Reserve Fund for Operation and Maintenance

Research infrastructure platforms are generally managed at the Faculty level. The oversight and planning of operations and maintenance resides within the department, school, institute, or research centre where the platform is located. Occasionally, a situation may arise where CFI-funded infrastructure is in need of extra operational funding for costs that are not normally eligible under IOF terms or for costs that exceed the authorized IOF allocation. In order to support such cases, a portion of the institutional IOF allocation is placed in a Reserve Fund which is made available to the Faculties for strategic allocation. This fund will support O&M expenses of the eligible projects on a need-based formula, taking into account the availability of other sources of funding over the useful lifetime of the infrastructure.

5.1 Definitions and Procedure

All McGill based CFI-funded infrastructure are eligible under the Reserve Fund. Decision making and allocation of the Reserve fund is managed by each Faculty with administrative support by the RIR. Each Faculty Dean is responsible for establishing specific eligibility and assessment criteria and process for

allocation of these funds. At the discretion of the Dean, a portion of the Reserve Fund may be targeted to a specific project already at the application stage (written confirmation is required).

Infrastructure projects housed in RI facilities may be eligible to apply if this has been specifically agreed and established in the inter-institutional blanket agreement. RIs which have decided not to participate in the McGill Reserve fund are encouraged to establish a mechanism for O&M emergency support at the local level. A Faculty may choose to delegate the responsibility to manage the Reserve Fund to the RIR which will pool available funds for allocations 2-3 times per year on a need-driven basis.

5.2 Reporting

- The RIR will provide information about the available amount annually to each Faculty and participating RI. The amount will be pro-rated based on eligible projects.
- Each Faculty and RI is required to provide an annual report to the RIR including detailed information on allocated funds (a report template will be provided).
- The RIR is responsible to prepare and submit the annual IOF report to CFI which will include information on the use of the Reserve Fund.

6 IOF Management

The IOF is available and may be claimed once the Award agreement is in place. The timeline for spending the IOF should be adjusted to the infrastructure installation schedule. RIR is responsible for coordinating the program administration while Finance is responsible for transfer of funds, monitoring expenses, and prepare reports to CFI on claims and expenses. RIR reviews each request and report for eligibility and conformity to the available allocation for the project and makes a recommendation regarding the release of funds to the VP-RIR and the Provost. Transfer of funds is initiated with Finance once the IOF request is approved.

6.1 Funds managed by the PL (major-scale projects)

The portion of the IOF that is controlled by the PL is released following these steps:

- The PL may submit a Request for release of IOF through the RIR at any time during the fiscal year using form “McGill-IOF Projected Expenditure Form” (Appendix 3).
- The initial Request will refer to the O&M plan at the Award finalization stage covering the infrastructure lifetime. Changes and updates from the Award finalization stage must be declared and justified.

- The PL is responsible for obtaining approval by the appropriate Head(s) of the Department(s) and Faculty Dean(s) for the IOF Request.

6.2 Funds managed by the Faculties (smaller-scale projects)

The Faculty is overseeing the management and administration of IOF for smaller-scale projects (LOF). On an annual basis, the RIR provides a calculation of the IOF status to each Faculty including new and ongoing CFI-funded projects and the amount of IOF generated by these projects. .

- In collaboration with the Faculty, the PL prepares a forecast of expenditures for the coming year which is in line with the O&M plan over the project lifetime.
- The PL oversees the O&M activities and submits purchase requisitions and requests to the Faculty for approval and record keeping.
- In emergency situations, if a piece of equipment unexpectedly breaks and funds are not available to replace or repair, the PL will alert the Faculty as soon as possible so that an action plan can be worked out in a timely fashion.
- The Faculty is responsible for ensuring that the infrastructure is used to its full capacity and that O&M expenses are covered as planned.
- Faculties are asked to report yearly on the use of funds.

6.3 Funds managed by the Hospital-based Research Institute

As described in section 4.3.2, the McGill-Research Institute specific agreement outlines the principles for post-award administration and allocation of IOF. On an annual basis, the RIR provides a calculation of the IOF status to each Research Institute including new and ongoing CFI-funded projects and the amount of IOF generated by these projects. In its turn, the Research Institute prepares a forecast for the coming year and a report on the past Year.

6.4 Funds managed by the University

McGill Facilities Management and Operations Department oversees the operation and maintenance of buildings on the McGill campuses and is responsible for utility services such as electricity, water supply, and custodial general maintenance. On an annual basis, the RIR provides a calculation of the IOF status to the Facility operation unit relative to the amount that is allocated to cover utility costs. The unit is responsible for tracking the expenditures and preparing an annual report indicating which buildings and if possibly, specific laboratories, for which utility costs have been paid by IOF funding. The RIR reviews the reports and cross-reference which CFI-funded infrastructure has been covered.

7 Decommissioning of CFI funded Infrastructure

7.1 Overview

Most CFI-funded infrastructure is retired from use informally when it is no longer needed for research purposes, non-repairable, or replaced by newer technology. In some cases, in order to conserve resources for support of critical infrastructure, the University may choose to formally decommission infrastructure so that it is no longer considered a priority for on-going support by the institution. Applicable University Policies applies, such as the *Guidelines and Procedures for Disposal of Major Research Instruments, Equipment and Software* (2010).

7.2 Procedure and decision making

The decommissioning process can be initiated by the PL, a Department, a Faculty, a Research Institute, or the VP-RIR. If the decommissioning takes place prior to five years from the date of acquisition or implementation of the infrastructure or facility it is subject to approval by CFI.

The PL (or unit) responsible for the infrastructure prepares a brief overview of the situation addressing the following:

- CFI Project number and budget line item or name of infrastructure
- Date of acquisition of the infrastructure or implementation of the facility
- Impact on the research project as approved by CFI (if decommissioning is required within less than 5 years from acquisition)
- Reason for decommissioning – e.g. no longer required for the research; want to use for non-research purposes (teaching/clinical)
- Projected timeline and costs of decommissioning
- Proposed method of decommissioning. Analysis of cost effectiveness and compliance with applicable regulations such as environmental, health, and safety.

The RIR will review the request in coordination with appropriate offices at the university and seek CFI approval as required. The decision of decommissioning is taken jointly by the VP-RIR and the Provost.

Appendix 1 – Consultation

Committee	Action	Date
Research Advisory Committee	Consultation	June 20, 2012
CFI	Status update	July 30, 2012
P7	Consultation	September 6, 2012
Board of Governors	Status update	September 19, 2012
CFI	Consultation	September 26, 2012
Research Advisory Committee	Consultation	October 3, 2012
Provost	Consultation	October 21, 2012
Board of Governors Audit committee	Status update	March 25, 2013
Deans (through Deans' Working Lunch meeting)	Consultation	April 3, 2013
Provost and Associate Provost, Faculty Affairs and Resource Allocation	Consultation	August 2013

Appendix 2 - Acronyms

Acronyms	
CFI	Canada Foundation for Innovation
CRC	Canada Research Chair
FOD	Facilities Operation and Development
IOF	Infrastructure Operating Fund
LEF	Leading Edge Fund
LOF	Leaders' Opportunity Fund
NIF	New initiatives Fund
O&M	Operation and maintenance
PL	Project Leader
RFMS	Research Financial Management Services
RI	Research Institute affiliated to McGill University
RIR	Office of Research and International Relations
VP-RIR	Vice-Principal, Research and International Relations

