CHUM
Centre hospitalier
de l'Université de Montréal

PROCEDURE
RESEARCH MANAGEMENT

SUBJECT: PROCEDURE for the management of scientific core facilities: maintenance, calibration/certification and repair	**NUMBER:** **CRCHUM** 50 511-03
ADDRESSEE: All staff of CRCHUM's Scientific Core Facilities	**Issued on:** January 15 2016 **Revised on:** July 23, 2020
ISSUED BY: Céline Coderre, Senior Manager, Scientific Performance	
APPROUVED BY: Research Management (DR) And **SIGNED BY:** Vincent Poitout, Research Director CHUM and research director CRCHUM	**Date:** July 23, 2020

OBJECTIVE

1- Describe the procedures to be followed and establish the responsibilities of core facilities staff for the maintenance, calibration and repair of core facilities equipment.

2- Describe how to produce and keep the required and adequate documentation associated with these activities. This information will provide useful data for: 1- preparing budgets; 2- evaluating the remaining lifetime of instruments; 3- identifying problem instruments (e.g. defective products); 4- make better decisions for the repair of instruments; and 5- facilitate the search for solutions when the experimental results obtained do not correspond to those expected.

1. TARGET AUDIENCE

This procedure must be followed by core facilities staff, including platform managers, employees and scientific advisors working on the various facilities recognized by the CRCHUM. This procedure also applies to the personnel of the Research Technical Support Service involved in the evaluation and/or repair/calibration of instruments.

2. DEFINITIONS

2.1 Equipment: The equipment on the core facility consists of the main equipment used to provide the requested service and deliver results to a client (e.g. mass spectrometer), but also includes any other associated equipment, such as laminar flow fume hoods, centrifuges, computers, etc., that must be used as part of this service, and which could affect the quality of the samples or results, or prevent their safe use, if not properly maintained.

2.2 Certification: Periodic verification of the operating parameters of equipment to ensure that they correspond to those established by the manufacturer.

2.3 Calibration: Calibration of equipment that must be carried out so that the parameters used are identical to a reliable external comparable, recognized by an international calibration standard (NIST).

2.4 Preventive maintenance: Any maintenance, addition or replacement of parts, including those recommended by the manufacturer, that must be done to prevent breakage, deterioration or wear and tear.

2.5 Computer equipment: Includes software and all computer hardware attached to the equipment, which must be kept in good condition and/or updated periodically to ensure that the equipment remains efficient.

2.6 Core Facility Manager (RP): Person responsible of the equipment and services and manages the core facility.

2.7 Service contract: a time-limited set of services associated with a specific instrument generally offered by the manufacturer of the instrument that includes preventive maintenance and repairs (parts and labor) or partial repairs of the instrument.

2.8 SSTR: Research Technical Support Service of the CRCHUM.

2.9 Senior Manager, Scientific Performance (PM): The person responsible for the overall organization and management of the core facilities, referred to as the PM in the policy.

3. POLICY OF REFERENCE

This follows policy number 50 511 "CRCHUM Core Facility Policy. Section 1 - Internal management of activities and services", the purpose of which is to describe the various rules that CRCHUM RPs must follow in order to successfully deliver services to their CHUM and non-CHUM clients.

4. RESPONSIBILITIES

4.1 RPs must ensure that the equipment under their responsibility is fully (100%) functional and therefore periodically serviced so that it remains efficient at all times.

4.2 After approval as described in sections 5.5.7, 5.5.8, 5.5.9, the core facility staff shall repair the equipment, if the repairs to be carried out are within their area of competence, or have them repaired as soon as possible.

4.3 RPs must document activities related to the maintenance and repair of equipment as well as recalls and voluntary services by equipment suppliers. RPs must keep all documentation for a period of time as set out in section 5.8.

4.4 If applicable, periodic calibrations/certifications must be performed and documented.

5. PROCEDURE

5.1 Cleaning and maintenance of self-service equipment

5.1.1 A periodic (daily, weekly or other) tour of the self-service equipment should be carried out, depending on the level of use, in order to check the operating condition of the equipment and the cleanliness of the associated spaces after they have been used by service users.

5.1.2 The RP must clean and service (e.g. lubricate) the equipment and the associated spaces on a regular basis. If a user is negligent or forgets to do so, the RP may contact the user to clean himself the equipment and the spaces used, according to the cleaning procedures described during his training.

5.1.3 The RP should record in a logbook the problems caused by negligence, notify and retrain the persons concerned. In the event of a recurrence, the GP and the person's immediate supervisor should be notified promptly so that they can take further action.

5.1.4 A user could be denied access to the core facility if the procedures in place are not followed.

5.2 Cleaning and maintenance of core facility service equipment

It is the RP's responsibility to see to the periodic cleaning of the equipment used by the core facility's staff so that its performance and cleanliness are optimal at all times.

5.3 Preventive Maintenance

5.3.1 Most equipment covered by service contracts have preventive maintenance included. The schedule must be established with the supplier, considering the shortest possible interruption of activities.

5.3.2 For equipment not covered by a service contract, the RP should prepare an annual schedule for equipment requiring preventive maintenance, and adhere to the given timelines.

5.3.3 The users of the core facility should be notified via email and by a signed and dated note placed directly on the equipment whenever the equipment is out of service which could affect ongoing operations. The RP will follow up with its clients on any additional downtime.

5.3.4 Following an interruption of service (including a breakdown, repair or recall), core facility users must be notified that the equipment is being restored.

5.4 Calibration / certification

5.4.1 The required time between calibrations or certifications varies considerably from one piece of equipment to another, from a daily to an annual activity. Follow the supplier's instructions for selecting the interval and establishing the schedule to be followed.

5.4.2 Calibrations and certifications can be done by the core facility staff, by the SSTR or by an external supplier, depending on the complexity of the work to be done or the calibration and certification equipment required.

5.4.3 Notify users in advance that equipment calibration will be performed so that they can organize their activities and ensure that their results will not be affected.

5.4.4 Document and keep a record of any calibration or certification performed by the core facility or by an external organization.

5.4.5 Evaluate the results and notify users of self-service equipment of any detected deviations between the off-standard parameters adjusted at calibration that could have affected results and activities. Keep records of correspondence.

5.4.6 For equipment used by core facility staff, evaluate the deviations detected and determine the impact on the work performed. Document and contact the clients concerned if required. Keep records of the correspondence.

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5.5 Equipment breakdowns, recalls and malfunctions not repairable by the RP.

5.5.1 The RP must take prompt action on any problematic equipment that will slow, affect and/or stop activities. The GP must be notified of any interruption of activities due to a major equipment failure.

5.5.2 Equipment breakdowns and recalls and the actions taken by the RP to resolve the situation must be documented and kept in file.

5.5.3 Any breakdown or recall that would cause an interruption or delay in the availability of self-service equipment or in the transmission of results to customers must be communicated promptly to the persons concerned.

5.5.4 Following a breakdown and its repair, or a recall, users of the core facility should be notified by email of the return to service of equipment.

5.5.5 Any failure or problem involving a building-related service must be reported promptly to Honeywell at extension 8360 or via an electronic request.

5.5.6 The only 4 options to consider in order to evaluate the damage of an equipment are the following: 1- contact the supplier/manufacturer of the instrument if the equipment is under warranty or under a service contract with parts and labor free of charge; 2- contact the SSTR who will do an initial diagnostic or evaluation work; 3- contact the private partner if the equipment is under their responsibility or 4- contact the IT department if it is a computer-related problem. Ensure that the work is done as soon as possible and according to the required specifications.

5.5.7 Notify the GP of any equipment repairs costing more than $1000.

5.5.8 If the SSTR or the IT department cannot resolve the problem, the RP will issue a service call to the supplier or other sub-contractor to prepare a quotation to repair the defective instrument. The actions to be taken (choice of supplier, work to be done, etc.) will be decided following consultation between SSTR, the platform manager, the GP, and the assistant scientific director - basic and translational research and the CRCHUM management, if necessary.

5.5.9 Generally speaking, any equipment that would have a repair cost of more than half of its value would not be repaired. It could also be upgraded. Any particular case will have to be assessed.

5.6 Upgrading an instrument

5.6.1 Where an upgrade is available or offered by the equipment supplier or a third-party vendor, the RP must ensure that the upgrade will not affect the functionality (loss of function/partial or total loss of application) of the device.

5.6.2 If the upgrade affects functionality and the RP does not have the option to apply the upgrade (e.g. due to a change in the operating program of a computer that controls the instrument (e.g. from Window XP to Window 7)), then the RP must warn users of this loss of functionality.

5.7 Purchase, downgrading or disposal

5.7.1 Refer to Procedure 50512-01 "Procedure for the Installation, Maintenance and Removal of Equipment and Services in CRCHUM Scientific Core Facilities".

5.7.2 All equipment purchase requests must be submitted to the GP so that the Assistant Scientific Director - Basic and Translational Research and CRCHUM management can evaluate the financial and scientific relevance of the equipment requested.

5.7.3 Prior to declassifying or removing equipment from a core facility, the GP should be notified to assess all possible alternatives and the impact on services and to confirm whether the declassification can be carried out.

5.7.4 On a regular basis, the Assistant Scientific Directorate asks Core Facilities' staff to conduct a more thorough assessment of needs and services offered in order to decide which equipment is required and which will be given to the researcher who provided it because it is obsolete or little used. This exercise will be done once every 2 years or upon request from the Assistant Scientific Director. Refer to section 5.4 of procedure 50512-01 'Procedure for the installation, maintenance and removal of equipment and services in the CRCHUM's scientific Core Facilities'.

5.8 Documentation

5.8.1 All documents relating to maintenance, calibration/certification, repair must be kept on file for the life of the equipment plus 5 years.

6. APPLICATION

This policy becomes effective on the day of its approval by the Research Director of the CHUM.

Vincent Poitout, DVM, PhD, FCAHS

Director of research, CHUM and Scientific director, CRCHUM