National Research Council Canada
Finance and Procurement Services Branch

Conseil national de recherches Canada
Direction des services financiers et d'approvisionnement

REQUEST FOR PROPOSALS
DEMANDE DE PROPOSITIONS

RETURN BIDS TO :
RETOURNER LES SOUMISSIONS À:

National Research Council Canada (NRC)
Finance and Procurement Services
1200 Montreal Road, Building M-58
Ottawa, Ontario
K1A 0R6

Title/Sujet **Fume Hood Performance Testing Service's**	
Solicitation No./N. de l'invitation **20-58008**	**Date** **May 5th, 2020**
Solicitation Closes/L'invitation prend fin **at/à** **14 :00** **on/le** **15 June 2020**	**Time Zone/Fuseau Horaire** **EDT**
Address Enquiries To/Adresser demandes de renseignements à : Alain Leroux Telephone No./N. de téléphone : **(613) 991-9980** Email : alain.leroux@nrc-cnrc.gc.ca	

Instructions: See Herein

Instructions: Voir aux présentes

Proposal To:

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux:

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Canada

Vendor/Firm Name and Address **Raison sociale et adresse du fournisseur/de l'entrepreneur** **Telephone No./N. de telephone** **Facsimile No./N. de télécopieur**
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisé à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie)** **Signature** **Date**

Fume Hood Performance Testing Service's

1.0 PRESENTATION OF PROPOSALS

1.1 You are invited to submit one copy of a Technical Proposal and one copy of a Financial Proposal in two separate email attachment to fulfil the following requirement forming part of this Request for Proposals. One attachment **must** be clearly indicated 'Technical Proposal' and the other attachment **must** be marked 'Financial Proposal'. All financial information **must** be fully contained in the Financial Proposal, and only in the Financial Proposal. Vendors who provide financial information in the technical proposal will be disqualified. **All proposals should include the front page of this RFP duly completed.**

2.0 SCOPE OF WORK

2.1 To test performance of all fume hoods to NRC 1200 Montreal Road and 100 Sussex in accordance with the detailed Statement of Work attached**.**

3.0 PERIOD OF CONTRACT

3.1 NRC anticipates that the work will begin on **contract award date** and be completed by **March 31, 2023.**

3.2 There is an option to renew at NRC's discretion for two (2) subsequent one-year periods, subject to satisfactory performance and agreement upon a satisfactory fee structure for that period(s).)

3.2 MANDATORY SITE VISIT

It is mandatory that the bidder attends one of the site visits at the designated date and time. At least one representative from proponents that intend to bid must attend. The site visits will be held on **May 12th and May 14th, 2020 at 9:30.** Meet Sylvain Thibodeau at Building S77, Main Entrance, 100 Sussex Drive, Ottawa, ON. Bidders who, for any reason, cannot attend at the specified date and time will not be given an alternative appointment to view the site and their tenders, therefore, will be considered as non-responsive. **NO EXCEPTIONS WILL BE MADE.**

* Due to COVID-19, we are taking additional measures to protect you and our employees at the site visits.

- To allow NRC to prepare for the site visits, all proponents are asked to pre-register 24 hours ahead of the job showing. Please register by emailing to Maurice Richard **(Maurice.Richard@nrc-cnrc.gc.ca).** Proponents shall provide contact name, email and phone number of person attending.

- At the site visit, to limit contact and risks:

    - The proponents will stay and wait in their vehicle until being called to the site visit meeting point by the NRC Departmental Representative.

    - The proponents will not be asked to sign the Attendance Form. Upon arrival at the site visit meeting point, The NRC Departmental Representative will gather the proponent's identification and contact information verbally and mark it down on the Attendance

Form on their behalf. It is the responsibility of all proponents to provide their identification and contact information as mandatory proof of attendance.

- The proponents will sanitize their hands at the hand sanitizing station.
- The site visit will proceed with a maximum of three (3) proponents at a time. Each group will have approximate 20 minutes to review the site. The site visit will continue with the next round of three (3) proponents until each one has had a chance to review the site.
- The site visits will take longer than usual, therefore anticipate a longer meeting duration.
- Physical distancing: keeping a distance of at least 2 arms-length (approximately 2 meters) from others is imperative.

- Depending on the anticipated amount of pre-registration, the NRC may decide to schedule time slots for every group of three (3) proponents. The time slot for your site visit will be confirmed by the NRC Departmental Representative by email upon pre-registration. That time will supersede the site visit meeting time specified above.

- Proposals submitted by bidders who have not attended the site visit or failed to submit their identification and contact information verbally at the site visit will be deemed non-responsive.

4.0 **ENQUIRIES**

4.1 If you require clarification regarding any aspect of this RFP, address all queries to the Contracting Authority, identified below, at least 10 working days before the closing date. All queries must be in writing and queries received less than 10 working days prior to the closing date cannot be guaranteed a response. Information received verbally will not be binding upon the NRC.

Alain Leroux
Contracting Authority, Procurement Services
National Research Council Canada
1200 Montreal Road, Bldg. M-58
Ottawa, Ontario K1A 0R6 Telephone: **613 991-9980**
alain.leroux@nrc-cnrc.gc.ca

4.2 To ensure the equality of information among Bidders, responses to general enquiries will be made available to all bidders unless such publications would reveal proprietary information. The bidder who initiates the question will not be identified. Technical questions that are considered proprietary by the bidder must be clearly identified. NRC will respond individually to the bidder if it considers the questions proprietary. If NRC does not consider the question proprietary, the bidder submitting it will be allowed to withdraw the question, or have the question and answer made available through the Open Bidding System (OBS) to all bidders.

4.3 Vendors who attempt to obtain information regarding any aspect of this RFP during the solicitation period through any NRC contacts other than the Contracting Authority identified herein, may be disqualified (for that reason alone).

4.4 It is the responsibility of the Bidder to obtain clarification of the requirement contained herein, if necessary, prior to submitting its proposal. The Bidder must have written confirmation from the Contracting Authority for any changes, alterations, etc., concerning this RFP.

5.0 PROPOSAL CLOSING DATE AND BID SUBMISSION INSTRUCTIONS

5.1 Proposals must be received by **email** not later than 2:00 PM EST, **June 15th, 2020**, to the following **Contracting Authority**:

Alain Leroux
Contracting Authority, Procurement Services
National Research Council Canada
1200 Montreal Road, Bldg. M-58
Ottawa, Ontario K1A 0R6 Telephone: (613) 991-9980

alain.leroux@nrc-cnrc.gc.ca

Proposals must not be sent directly to the Project Authority

5.1 Bid submissions must be in accordance with the Standard Instructions and Conditions (Applicable to Bid Solicitation) attached as Appendix **"E".**

5.2 Due to the nature of this solicitation, NRC will not accept any proposal documents by facsimile.

5.3 NRC will accept proposal documents by electronic mail only.

5.4 All submitted proposals become the property NRC and will not be returned to the originator.

6.0 EVALUATION CRITERIA

6.1 Proposals will be assessed in accordance with the mandatory criteria attached in **Special Instructions to bidders.** Bidders shall provide a detailed response to each criterion. NRC reserves the right to verify any and all information provided by the bidder in his/her proposal.

7.0 COST PROPOSAL

7.1 The cost proposal must be a **fixed price quotation, FOB Destination, excluding GST/HST.** The fixed price must include all the materials and services required to fulfil all aspects of the Statement of Work. Bidders should identify the currency on which the cost proposal is based.

7.2 The cost proposal must have sufficient structure to show how the total proposed cost was calculated. It should contain the following elements:

a) The number, classification and per diem and/or hourly rate for all assigned personnel. For each classification, the number of workdays should be defined.

b) The amount and explanation for other miscellaneous expenses that could be incurred.

c) The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive, and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

7.3 GOODS AND SERVICES TAX (GST) and HARMONIZED SALES TAX (HST): The GST and HST, whichever is applicable, shall be considered an applicable tax for the purposes of this RFP and extra to the price herein. The amount of GST or HST shall be disclosed and shown as a separate item.

7.4 Bids will be evaluated in Canadian currency, therefore, for evaluation purposes, the exchange rate quoted by the Bank of Canada as being in effect on date of bid closing, shall be applied as the conversion factor for foreign currency. Prices quoted shall not be subject to, or conditional upon, fluctuations in commercial or other interest rates during either the evaluation or contract period.

8.0 CONDITIONS OF SUBMISSION

8.1 There shall be no payment by the National Research Council for costs incurred in the preparation and submission of proposals in response to this request. No payment shall be made for costs incurred for clarification(s) and/or demonstration(s) that may be required by NRC. The National Research Council reserves the right to reject any or all proposals submitted, or to accept any proposal in whole or in part without negotiation. A contract will not necessarily be issued as a result of this competition. NRC reserves the right to amend, cancel or reissue this requirement at any time.

8.2 The method of selection will be the valid proposal with the lowest financial proposal.

8.3 Proposals submitted must be valid for not less than sixty (60) calendar days from the closing date of the RFP.

8.4 Your proposal should contain the following statement:

"We hereby certify that the price quote is not in excess of the lowest price charged anyone else, including our most favoured customer, for like services".

8.5 Any contract resulting from this invitation will be subject to the General Conditions - Services 2010C (copy attached as Appendix "C") and any other special conditions that may apply.

9.0 CONFIDENTIALITY

9.1 This document is UNCLASSIFIED, however; the contractor shall treat as confidential, during as well as after the services contracted for, any information of the affairs of NRC of a confidential nature to which its servants or agents become privy.

10.0 **CRIMINAL CODE OF CANADA**

10.1 Canada may reject an offer where the Bidder, or any employee or subcontractor included as part of the offer, has been convicted under section 121 ("Frauds on the government" & Contractor subscribing to election fund"), 124 ("Selling or purchasing office"), or 418 ("Selling defective stores to Her Majesty") of the Criminal Code.

11.0 **DEBRIEFINGS**

11.1 After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

ADDITIONAL CONTRACT CLAUSES

Bidder compliance with all of the following clauses, terms and conditions of the resulting contract is mandatory.

12.0 **T4-A SUPPLEMENTARY SLIPS**

12.1 Pursuant to paragraph 221(1)(d) of the Income Tax Act, payments made by departments and agencies to contractors under applicable services contracts (including contracts involving a mix of goods and services) must be reported on a T4A Supplementary slip. To enable client departments and agencies to comply with this requirement, contractors are required to provide information as to their legal name and status, business number, and/or Social Insurance Number or other identifying supplier information as applicable, along with a certification as to the completeness and accuracy of the information.

13.0 **GOVERNMENT SMOKING POLICY**

13.1 Where the performance of the work requires the presence of the Contractor's personnel on government premises, the Contractor shall ensure that its personnel shall comply with the policy of the Government of Canada, which prohibits smoking on any government premises.

14.0 **ACCESS TO GOVERNMENT FACILITIES / EQUIPMENT**

14.1 Access to the facilities and equipment necessary to the performance of the work shall be provided through arrangements to be made by the Project Authority named herein. There will be however; no day-to-day supervision of the Contractor's activities nor control of the Contractor's hours of work by the Project Authority.

14.2 The Contractor undertakes and agrees to comply with all Standing Orders and Regulations in force on the site where the work is to be performed, relating to the safety of persons on the site or the protection of property against loss or damage from any and all causes including fires.

15.0 **GENERAL CONDITIONS**

15.1 The General Conditions 2010C entitled General Conditions Services and attached as Appendix **"C"** form part of this Contract.

16.0 ADDITIONAL WORK

16.1 The successful bidder can at NRC's option, be asked to provide additional work related to this requirement. Payment will be limited to the firm per diems quoted in the Contractor's proposal.

17.0 NON-PERMANENT RESIDENT (CANADIAN COMPANY)

17.1 The Contractor is responsible for compliance with the immigration requirements applicable to non-permanent residents entering Canada to work on a temporary basis in fulfillment of the Contract. In some instances, the employment authorization necessary to enter Canada cannot be issued without prior approval of Human Resources Centre Canada (HRCC). HRCC should always be contacted as soon as the decision to bring in a non-permanent resident is made. The Contractor will be responsible for all costs incurred as a result of non-compliance with immigration requirements.

18.0 LUMP SUM PAYMENT - WORK FORCE REDUCTION PROGRAMS

18.1 It is a term of the contract that:

a. the Contractor has declared to the Departmental Representative whether the Contractor has received a lump sum payment made pursuant to any work force reduction program, including but not limited to the Work Force Adjustment Directive, the Early Departure Incentive Program, the Early Retirement Incentive Program or the Executive Employment Transition Program, which has been implemented to reduce the public service;

b. the Contractor has informed the Departmental Representative of the terms and conditions of that work force reduction program, pursuant to which the Contractor was made a lump sum payment, including the termination date, the amount of the lump sum payment and the rate of pay on which the lump sum payment was based; and

c. the Contractor had informed the Departmental Representative of any exemption in respect of the abatement of a contract fee received by the Contractor under the Early Departure Incentive Program Order or paragraph 4 of Policy Notice 1995-8, of July 28, 1995.

19.0 FORMER PUBLIC SERVANT

19.1 Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, bidders must provide the information required below.

19.2 Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c.. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

a) an individual;

b) an individual who has incorporated;
c) a partnership made of former public servants; or
d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means, in the context of the fee abatement formula, a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament Retiring Allowances Act, R.S., 1985, c. M-5, and that portion of pension to the Canada Pension Plan Act, R.S., 1985, c. C-8.

19.3 Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes** ( ) **No** ( )

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:
a) name of former public servant;
b) date of termination of employment or retirement from the Public Service.

19.4 By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

19.5 A contract for the services of a FPS who has been retired for less than one year and who is in receipt of a pension as defined above is subject to a fee reduction (abatement formula) as required by Treasury Board Policy.

19.6 Work Force Reduction Program

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? **Yes** ( ) **No** ( )

If so, the Bidder must provide the following information:

a) name of former public servant;
b) conditions of the lump sum payment incentive;
c) date of termination of employment;
d) amount of lump sum payment;
e) rate of pay on which lump sum payment is based;
f) period of lump sum payment including start date, end date and number of weeks;

g) number and amount (professional fees) of other contracts subject to the restrictions of a work force reduction program.

19.7 For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is $5,000, including the Goods and Services Tax or Harmonized Sales Tax.

20.0 OFFICE OF THE PROCUREMENT OMBUDSMAN (OPO)

20.1 The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an independent avenue for suppliers to raise complaints regarding the award of contracts under $25,000 for goods and under $100,000 for services. You have the option of raising issues or concerns regarding the solicitation, or the award resulting from it, with the OPO by contacting them by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca. You can also obtain more information on the OPO services available to you at their website at www.opo-boa.gc.ca.

21.0 SECURITY LEVEL

21.1 Prior to the performance of the obligations under this contract, all personnel that will be involved with the project must be cleared to the security level of **RELIABILITY** as defined in the security policy of Canada.

Any Contract resulting from this invitation will be subject to the Security Requirements Check List (SRCL), form TBS/SCT 350-103, attached at Appendix "D".

22.0 ENVIRONMENTAL CONSIDERATIONS

22.1 Canada is committed to greening its supply chain. In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to acquire products and services that have a lower impact on the environment than those traditionally acquired. Environmentally preferable goods and services are those that have a lesser or reduced impact on the environment over the life cycle of the good or service, when compared with competing goods or services serving the same purpose. Environmental performance considerations include, among other things: the reduction of greenhouse gas emissions and air contaminants; improved energy and water efficiency; reduced waste and support reuse and recycling; the use of renewable resources; reduced hazardous waste; and reduced toxic and hazardous substances. In accordance with the Policy on Green Procurement https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573 , for this solicitation:

- Offerors / suppliers are encouraged to offer or suggest green solutions whenever possible.
- Offerors / suppliers are requested to provide all correspondence including (but not limited to) documents, reports and invoices in electronic format unless otherwise specified by the Contracting Authority or Project Authority, thereby reducing printed material.
- The paper format of the offer / arrangement should be certified as originating from a sustainable managed forest and/or with a minimum of 30% recycled content.
- Offerors / suppliers should recycle (shred) unneeded copies of non-classified/secure documents (taking into consideration the Security Requirements).

- Product components used in performing the services should be recyclable and/or reusable, whenever possible.
- Offerors / suppliers are encouraged to offer goods and/or services certified to a reputable eco-label.
- Offerors / suppliers should use equipment that has high energy efficiency or produces low air emissions.
- Offerors / suppliers are encouraged to offer environmentally preferred products which supports a sustainable environment for nature and wildlife.
- Offerors / suppliers are encouraged to offer environmentally preferred products which ensure the comfort and air quality of building occupants.

Suppliers are encouraged to consult the following websites:
https://www.tpsgc-pwgsc.gc.ca/app-acq/ae-gp/index-eng.html
https://www.tpsgc-pwgsc.gc.ca/app-acq/ae-gp/rle-glr-eng.html

23.0 **INTEGRITY PROVISIONS**

23.1 By responding to this RFP, the Proponent is subject to the integrity provisions contained in the following documents:

- The Government of Canada's *Integrity Provision*
- *Ineligibility and Suspension Policy* (the "Policy") in effect on the date the bid solicitation is issued
- *all related Directives related to the above policy in effect on that date*

23.2 These documents are incorporated by reference and form a binding part of the bid solicitation. The Bidder must comply with the Policy and Directives at the following link:

https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/1/2003/21

23.3 In addition to all other information required in the procurement process, the Supplier **must** provide the following:

- Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder or, in the case of a private company, the owners of the company.

- Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

SURNAME	GIVEN NAME(S)	TITLE

24.0 **ATTACHMENTS**

Appendix "A" – Fume Hood Management Plan
Appendix "B" – Fume Hood Inventory List
Appendix "C" – General Conditions 2010C
Appendix “D” – Security Requirement Checklist Form
Appendix “E” – Standard Instructions and Conditions (Applicable to Bid Solicitation) dated 2007/06/01

END OF TABLE of CONTENTS

1. SCOPE OF WORK

.1 Work under this contract covers the testing of the Fume hoods in the National Capital region in the Council's Building of the National Research Council.

2. COMPLETION

.1 Complete all work within as specified in the RFP after receipt of notification of acceptance of tender.

3. GENERAL

.1 The word "provide" in this Specification means to supply and install.

.2 Provide items mentioned in either the drawings or the specification.

4. SPECIFIED ACCEPTABLE & ALTERNATIVE EQUIPMENT & MATERIALS

.1 Materials and equipment scheduled and/or specified on the drawings or in the specifications have been selected to establish a performance and quality standard. In most cases, acceptable manufacturers are stated for any material or equipment specified by manufacturer's name and model number. Contractors may base their tender price on materials and equipment supplied by any of the manufacturers' names as acceptable for the particular material or equipment.

.2 In addition to the manufacturers specified or named as acceptable, you may propose alternative manufacturers of materials or equipment to the Departmental Representative for acceptance. For a product to be considered as an alternative product substitute, make a written application to the Departmental Representative during the tender period, not later than ten (10) working days before tender closing.

.3 Certify in writing that the alternative meets all requirements of the specified material or equipment. In addition, it shall be understood that all costs required by or as a result of acceptance or proposed alternatives, will be borne by the contractor.

.4 Approval of alternatives will be signified by issue of an Addendum to the Tender Documents.

.5 Any alternative manufacturers or materials submitted which are incomplete and cannot be evaluated, or are later than ten (10) working days before tender closing date or after the tender period, will not be considered.

5. MINIMUM STANDARDS

.1 Conform to or exceed minimum acceptable standards of the various applicable federal, provincial and municipal codes such as The National Building Code, The National Fire Code, Canadian Plumbing Code, Canadian Electrical Code, Canadian Code for Construction Safety and the Provincial Construction Safety Act.

.2 Work to conform to referenced standards and codes as reaffirmed or revised to date of specification.

6. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)

.1 The general contractor shall comply with Federal and Provincial legislation regarding the WHMIS. The contractor's responsibilities include, but are not limited to the following:

.1 To ensure that any controlled product brought on site by the contractor or sub-contractor is labeled;

.2 To make available to the workers and the Departmental Representative, Material Safety Data Sheets (MSDS) for these controlled products;

.3 To train own workers about WHMIS, and about the controlled products that they use on site;

.4 To inform other contractors, sub-contractors, the Departmental Representative, authorized visitors and outside inspection agency personnel about the presence and use of such products on the site.

.5 The site foreman or superintendent must be able to demonstrate, to the satisfaction of the Departmental Representative, that he/she has had WHMIS training and is knowledgeable in its requirements. The Departmental Representative can require replacement of this person if this condition or implementation of WHMIS is not satisfactory.

7. REQUIREMENTS OF BILL 208, SECTION 18(a)

Under the requirements of Bill 208 of the Ontario Ministry of Labour Occupational Health & Safety Act, the following designated substances may be encountered while performing the work described in these contract documents:

.1 Acrylonitrile, Isocyanates, Arsenic, Lead, Asbestos, Mercury, Benzene, Silica, Coke Oven Emissions, Vinyl Chloride, and Ethylene Oxide

.1 It is the responsibility of the general contractor to ensure that each prospective subcontractor for this project has received a copy of the above list.

.2 The general contractor is advised to take the following precautions when dealing with the above substances:

8. SUB-TRADES

.1 Submit no later than 72 hours after tender closing, a complete list of sub trades for the Departmental Representative's review.

9. PERSONNEL SECURITY AND IDENTIFICATION

.1 All persons employed by the contractor, or by any subcontractor and present on the site must be security cleared in accordance with the requirements of the Section entitled Special Instructions to Tenderers.

.2 All such persons must wear and keep visible identification badges as issued by the Security Office of NRC.

10. WORKING HOURS AND SECURITY

.1 Normal working hours on the NRC property are from 8:00 a.m. until 4:30 p.m., Monday to Friday inclusive, except statutory holidays.

.2 At all other times, special written passes are required for access to the building site.

~~.3~~ Before scheduling any work outside normal working hours, obtain permission from the Departmental Representative to perform the specific tasks.

.4 An escort may be required whenever working outside normal hours. Contractor to bear the associated costs.

11. SCHEDULE

.1 The contractor shall prepare a detailed schedule, fixing the date for commencement and completion of the various parts of the work and update the said schedule. Such schedule shall be made available to the Departmental Representative not later than two weeks after the award of the contract and prior to commencement of any work on site.

.2 Notify Departmental Representative in writing of any changes in the schedule.

.PROJECT MEETINGS

.1 Hold regular project meetings at times and locations approved by the Departmental Representative.

.2 Notify all parties concerned of meetings to ensure proper coordination of work.

.3 Departmental Representative will set times for project meetings and assume responsibility for recording and distributing minutes.

13. MATERIALS AND WORKMANSHIP

.1 Install only new materials on this project unless specifically noted otherwise.

.2 Only first class workmanship will be accepted, not only with regard to safety, efficiency, durability, but also with regard to neatness of detail and performance.

14. WORK & MATERIALS SUPPLIED BY OWNER

.1 Work and materials not included in this contract are described on drawings and in this specification.

.2 Deliver to a storage place, as directed by the Departmental Representative, all materials returned to the Owner.

.3 Unless otherwise specified, accept owner-supplied materials at their storage location and provide all transportation as required.

.4 General Contractor's duties:

.1 Unload at site.

.2 Promptly inspect products and report damaged or defective items.

.3 Give written notification to the Departmental Representative for items accepted in good order.

.4 Handle at site, including uncrating and storage.

.5 Repair or replace items damaged on site.

.6 Install, connect finished products as specified.

15. SITE ACCESS

.1 Make prior arrangements with the Departmental Representative before starting work or moving materials and equipment on site.

.2 Obtain approval of Departmental Representative for regular means of access during the construction period.

.3 Obtain approval of Departmental Representative before temporarily suspending operations on site; before returning to the site and before leaving the site at the end of the job.

.4 Provide and maintain access to site.

.5 Build and maintain temporary roads and provide snow removal during period of work.

.6 Provide snow clearing and removal as required during the contract period.

.7 Make good any damage and clean up dirt, debris, etc., resulting from contractor's use of existing roads.

16. USE OF SITE

.1 Restrict operations on the site to the areas approved by the Departmental Representative

.2 Locate all temporary structures, equipment, storage, etc., to the designated areas.

.3 Restrict parking to the designated areas.

17. ACCEPTANCE OF SITE

.1 Inspect the site before commencing work, review any unexpected conditions with the Departmental Representative.

.2 Commencement of work will imply acceptance of existing conditions.

18. SITE OFFICE & TELEPHONE

.1 Contractor to erect a temporary site office at his own expense.

.2 Install and maintain a telephone, if necessary.

.3 Use of NRC phones is not permitted unless in the case of an emergency.

19. SANITARY FACILITIES

.1 Obtain permission from the Departmental Representative to use the existing washroom facilities in the building .

20. TEMPORARY SERVICES

.1 A source of temporary power will be made available in the area. Bear all costs to make connections to the power source and perform distribution on site.

.2 Provide all load centres, breakers, conduit, wiring, disconnects, extension cords, transformers, as required from the source of power.

.3 Power is to be used only for power tools, lighting, controls, motors, and not for space heating.

.4 A source of temporary water will be made available if required.

.5 Bear all costs associated with distributing the water to the required locations.

.6 Comply with NRC requirements when connecting to existing systems in accordance with the articles entitled "Co-operation" and "Service Interruptions" of this section.

21. DOCUMENTS REQUIRED AT WORK SITE

.1 The contractor shall keep on the site, one (1) up-to-date copy of all contract documents, including specifications, drawings, addenda, shop drawings, change notices, schedule and any reports or bulletins pertaining to the work, in good order, available to the Departmental Representative and to his / her representatives at all times.

.2 At least one (1) copy of specifications and drawings shall be marked by the contractor to show all work "As Built" and shall be provided to the Departmental Representative with the Application for Payment and for the Final Certificate of Completion.

22. CO-OPERATION

.1 Co-operate with NRC staff in order to keep disruption of normal research work to an absolute minimum.

.2 Work out in advance, a schedule for all work which might disrupt normal work in the building.

.3 Have schedule approved by the Departmental Representative.

.4 Notify the Departmental Representative in writing, 72 hours prior to any intended interruption of facilities, areas, corridors, mechanical or electrical services and obtain requisite permission.

23. PROTECTION AND WARNING NOTICES

.1 Provide all materials required to protect existing equipment.

.2 Erect dust barriers to prevent dust and debris from spreading through the building.

.3 Place dust protection in the form of cover sheets over equipment and furniture and tape these sheets to floors, to ensure no dust infiltration.

.4 Repair or replace any and all damage to Owner's property caused during construction, at no cost to the Owner and to the satisfaction of the Departmental Representative.

.5 Protect the buildings, roads, lawns, services, etc. from damage which might occur as a result of this work.

.6 Plan and co-ordinate the work to protect the buildings from the leakage of water, dust, etc.

.7 Ensure that all doors, windows, etc., that could allow transfer of dust, noise, fumes, etc., to other areas of the building are kept closed.

.8 Be responsible for security of all areas affected by the work under the Contract until acceptance by NRC. Take all necessary precautions to prevent entry to the work area by unauthorized persons and guard against theft, fire and damage by any cause. Secure working area at the end of each day's work and be responsible for same.

.9 Provide and maintain adequate safety barricades around the work sites to protect NRC personnel and the public from injury during the construction.

.10 Post warnings, in all instances where possible injury could occur such as Work Overhead, Hard Hat Areas, etc. or as required by the Departmental Representative.

.11 Provide temporary protective enclosures over building entrances and exits to protect pedestrians. All enclosures to be structurally sound against weather and falling debris.

24. BILINGUALISM

.1 Ensure that all signs, notices, etc. are posted in both official languages.

.2 Ensure that all identification of services called for by under this contract are bilingual.

25. LAYOUT OF WORK

.1 Location of equipment, fixtures, outlets and openings indicated on drawings or specified are to be considered as approximate.

.2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with the manufacturer's recommendations for safety, access and maintenance.

.3 Employ competent person to lay out work in accordance with the contract documents.

26. DISCREPANCIES & INTERFERENCES

.1 Prior to the start of the work, examine drawings and specifications. Report at once to the Departmental Representative, any defects, discrepancies, omissions or interferences affecting the work.

.2 Contractor to immediately inform the Departmental Representative in writing, of any discrepancies between the plans and the physical conditions so the Departmental Representative may promptly verify same.

.3 Any work done after such a discovery, until authorized, is at the contractor's risk.

.4 Where minor interferences as determined by the Departmental Representative are encountered on the job and they have not been pointed out on the original tender or on the plans and specifications, provide offsets, bends or reroute the services to suit job conditions at no extra cost.

.5 Arrange all work so as not to interfere in any way with other work being carried out.

27. MANUFACTURER'S INSTRUCTIONS

.1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.

.2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturer's instruction. Departmental Representative will designate which document is to be followed.

28. TEMPORARY HEATING AND VENTILATING

.1 Bear the costs of temporary heat and ventilation during construction including costs of installation, fuel, operation, maintenance, and removal of equipment.

.2 Use of direct-fired heaters discharging waste products into the work areas will not be permitted unless prior approval is given by the Departmental Representative.

.3 Furnish and install temporary heat and ventilation in enclosed areas as required to:

.1 Facilitate progress of work.

.2 Protect work and products against dampness and cold.

.3 Reduce moisture condensation on surfaces to an acceptable level.

.4 Provide ambient temperature and humidity levels for storage, installation and curing of materials.

.5 Provide adequate ventilation to meet health regulations for a safe working environment.

.4 Maintain minimum temperature of 10 ^{o}C (50 ^{o}F) or higher where specified as soon as finishing work is commenced and maintain until acceptance by the Departmental Representative. Maintain ambient temperature and humidity levels as required for comfort of NRC personnel.

.5 Prevent hazardous or unhealthy accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction including also, storage areas and sanitary facilities.

.1 Dispose of exhaust materials in a manner that will not result in a harmful or unhealthy exposure to persons.

.6 Maintain strict supervision of operation of temporary heating and ventilating equipment.

.1 Enforce conformance with applicable codes and standards.

.2 Comply with instructions of the Departmental Representative including provision of full-time watchman services when directed.

.3 Enforce safe practices.

.4 Vent direct-fired combustion units to outside.

.7 Submit tenders assuming existing or new equipment and systems will not be used for temporary heating and ventilating.

.8 After award of contract, Departmental Representative may permit use of the permanent system providing agreement can be reached on:

.1 Conditions of use, special equipment, protection, maintenance, and replacement of filters.

.2 Methods of ensuring that heating medium will not be wasted and in the case of steam, agreement on what is to be done with the condensate.

.3 Saving on contract price.

.4 Provisions relating to guarantees on equipment.

29. CONNECTIONS TO AND INTERRUPTIONS TO EXISTING SERVICES

.1 Where work involves breaking into or connecting to existing services, carry out work at times and in the manner agreed to by the Departmental Representative and by authorities having jurisdiction, with minimum disruption to NRC Personnel and vehicular traffic and minimum service interruption. Do not operate any NRC equipment or plant.

.2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

.3 Submit a schedule to and obtain approval from the Departmental Representative for any shut-down or closure of active service or facility; allow minimum 72 hours notice. Adhere to approved schedule and provide notice to the Departmental Representative.

.4 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.5 Provide detours, bridges, alternate feeds, etc., as required to minimize disruptions.

.6 Protect existing services as required and immediately make repairs if damage occurs.

.7 Remove any abandoned service lines as indicated on the contract documents and as approved by the Departmental Representative; cap or otherwise seal lines at cut-off points.

Record and provide a copy to the Departmental Representative of locations of maintained, re-routed and abandoned service lines.

30. CUTTING AND PATCHING

.1 Cut existing surfaces as required to accommodate new work.

.2 Remove all items as shown or specified.

.3 Patch and make good with identical materials, the surfaces that have been disturbed, cut or damaged, to the satisfaction of the Departmental Representative.

.4 Where new pipes pass through existing construction, core drill an opening. Size openings to leave 12mm (1/2") clearance around the pipes or pipe insulation. Do not drill or cut any surface without the approval of the Departmental Representative.

.5 Obtain written approval of the Departmental Representative before cutting openings through existing or new structural members.

.6 Seal all openings where cables, conduits or pipes pass through walls with an acoustic sealant conforming to CAN/CGSB-19.21-M87.

.7 Where cables, conduits and pipes pass through fire rated walls and floors, pack space between with compressed glass fibres and seal with fire stop caulking in accordance with CAN/CGSB-19.13-M87 AND NBC 3.1.7.

31. FASTENING DEVICES

.1 Do not use explosive actuated tools, without first obtaining permission from the Departmental Representative.

.2 Comply with the requirements of CSA A-166 (Safety Code for Explosive Actuated Tools).

.3 Do not use any kind of impact or percussion tool without first obtaining permission from the Departmental Representative.

32. OVERLOADING

.1 Ensure that no part of the building or work is subjected to a load which will endanger safety or cause permanent deformation or structural damage.

33. DRAINAGE

.1 Provide temporary drainage and pumping as required to keep excavations and site free of water.

34. ENCLOSURE OF STRUCTURES

.1 Construct and maintain all temporary enclosures as required to protect foundations, sub-soil, concrete, masonry, etc., from frost penetration or damage.

.2 Maintain in place until all chances of damage are over and proper curing has taken place.

.3 Provide temporary weather tight enclosures for exterior openings until permanent sash and glazing and exterior doors are installed.

.4 Provide lockable enclosures as required to maintain the security of NRC facilities and be responsible for the same.

.5 Provide keys to NRC security personnel when required.

.6 Lay out the work carefully and accurately and verify all dimensions and be responsible for them. Locate and preserve general reference points.

.7 Throughout the course of construction, keep continuously acquainted with field conditions, and the work being developed by all trades involved in the project. Maintain an awareness of responsibility to avoid space conflict with other trades.

.8 Conceal all services, piping, wiring, ductwork, etc., in floors, walls or ceilings except where indicated otherwise.

35. STORAGE

.1 Provide storage as required to protect all tools, materials, etc., from damage or theft and be responsible for the same.

.2 Do not store flammable or explosive materials on site without the authorization of the Departmental Representative.

36. GENERAL REVIEW

.1 Periodic review of the contractor's work by the Departmental Representative does not relieve the contractor of the responsibility of making the work in accordance with contract documents. Contractor shall carry out his own quality control to ensure that the construction work is in accordance with contract documents.

.2 Inform the Departmental Representative of any impediments to the installation and obtain his / her approval for actual location.

37. INSPECTION OF BURIED OR CONCEALED SERVICES

.1 Prior to concealing any services that are installed, ensure that all inspection bodies concerned, including NRC, have inspected the work and have witnessed all tests. Failure to do so may result in exposing the services again at the contractor's expense.

38. TESTING

.1 On completion, or as required by local authority inspectors and/or Departmental Representative during progress of work and before any services are covered up and flushing is complete, test all installations in the presence of the Departmental Representative.

.2 Obtain and hand to the Departmental Representative all acceptance certificates or test reports from authority having jurisdiction. The project will be considered incomplete without the same.

39. PARTIAL OCCUPANCY

.1 NRC may request partial occupancy of the facility if the contract extends beyond the expected completion date.

.2 Do not restrict access to the building, routes, and services.

.3 Do not encumber the site with materials or equipment.

40. DISPOSAL OF WASTES

.1 Dispose of waste materials including volatiles, safely off NRC property. Refer to the section entitled "General and Fire Safety Requirements" included as part of this specification.

41. CLEAN-UP DURING CONSTRUCTION

.1 On a daily basis, maintain project site and adjacent area of campus including roofs, free from debris and waste materials.

.2 Provide on-site dump containers for collection of waste materials and rubbish.

42. FINAL CLEAN-UP

.1 Upon completion do a final clean-up to the satisfaction of the Departmental Representative.

.2 Clean all new surfaces, lights, existing surfaces affected by this work, replace filters, etc.

.3 Clean all resilient flooring and prepare to receive protective finish. Protective finish applied by NRC

43. WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

.1 Refer to General Conditions "C", section GC32.

.2 Ensure that all manufacturers' guarantees and warranties are issued in the name of the **General** Contractor and the National Research Council.

44. MAINTENANCE MANUALS

.1 Provide two (2) bilingual copies of maintenance manuals or two English and two French maintenance manuals and one electronic copy of same immediately upon completion of the work and prior to release of holdbacks.

.2 Manuals to be neatly bound in hard cover loose leaf binders.

.3 Manuals to include operating and maintenance instructions, all guarantees and warranties, shop drawings, technical data, etc., for the material and apparatus supplied under this contract.

END OF SECTION

1. GENERAL CONSTRUCTION SAFETY REQUIREMENTS

.1 The Contractor shall take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the contract.

.2 The Contractor shall be solely responsible for the construction safety of both its employees and those of its sub-contractors at the work site, and for initiating, maintaining and supervising safety precautions, programs and procedures in connection with the performance of the work.

.3 The Contractor shall comply with all Federal, Provincial and Municipal safety codes and regulations and the Occupational Health and Safety Act and the Workplace Safety and Insurance Board. In the event of any conflict between any provisions in legislation or codes, the most stringent provisions shall apply.

.4 Periodic review of the contractor's work by the Departmental Representative, using the criteria of the contract documents, does not relieve the contractor of his safety responsibilities in carrying out the work in accordance with the contract documents. The contractor shall consult with the Departmental Representative to ensure that this responsibility is carried out.

.5 The Contractor shall ensure that only competent personnel are permitted to work on site. Throughout the term of the contract, any person will be removed from the site who is not observing or complying with the safety requirements.

.6 All equipment shall be in safe operating condition and appropriate to the task.

.7 Following a project and site hazard assessment, the Contractor shall develop a Site Specific Safety Plan based on the following minimum requirements:

- .1 Provide a safety board mounted in a visible location on the project site, with the following information included thereon:
  - .1 Notice of Project
  - .2 Site specific Safety Policy
  - .3 Copy of Ontario Health and Safety Act
  - .4 Building Schematic showing emergency exits
  - .5 Building emergency procedures
  - .6 Contact list for NRC, Contractor and all involved sub-contractors
  - .7 Any related MSDS sheets
  - .8 NRC Emergency phone number

.8 The Contractor shall provide competent personnel to implement its safety program and those of any Health and Safety Act legislation applicable at this project location, and to ensure they are being complied with.

.9 The Contractor shall provide safety orientation to all its employees as well as those of any subcontractors under its jurisdiction.

.10 The Departmental Representative will monitor to ensure that safety requirements are met and that safety records are properly kept and maintained. Continued disregard for safety standards can cause the contract to be cancelled and the Contractor or sub-contractors removed from the site.

.11 The Contractor will report to the Departmental Representative and jurisdictional authorities, any accident or incident involving Contractor or NRC personnel or the public and/or property arising from the Contractor's execution of the work.

.12 If entry to a laboratory is required as part of the work of the Contractor, a safety orientation shall be provided to all his employees as well as those of any subcontractors regarding lab safety requirements and procedures, as provided by the Researcher or the Departmental Representative.

2. FIRE SAFETY REQUIREMENTS

.1 Authorities

1. The Fire Commissioner of Canada (FC) is the authority for fire safety at NRC.
2. For the purpose of this document, "Departmental Representative" will be deemed as the NRC person in charge of the project and who will enforce these Fire Safety Requirements.
3. Comply with the following standards as published by the Office of the Fire Commissioner of Canada:
    a. Standard No. 301 - June 1982 "Standard for Construction Operations";
    b. Standard No. 302 - June 1982 "Standard for Welding and Cutting".

.2 Smoking

.1 Smoking is prohibited inside all NRC buildings, as well as roof areas.

.2 Obey all "NO SMOKING" signs on NRC premises.

.3 Hot Work

.1 Prior to commencement of any "Hot Work" involving welding, soldering, burning, heating, use of torches or salamanders or any open flame, obtain a Hot Work Permit from the Departmental Representative.

.2 Prior to commencement of "Hot Work", review the area of hot work with the Departmental Representative to determine the level of fire safety precautions to be taken.

.4 Reporting Fires

.1 Know the exact location of the nearest Fire Alarm Pull Station and telephone, including the emergency phone number.

.2 REPORT immediately, all fire incidents as follows:

.1 Activate nearest fire alarm pull station and;

.2 Telephone the following emergency phone number as appropriate:

FROM AN NRC PHONE	**333**
FROM ANY OTHER PHONE	**(613) 993-2411**

4. When reporting a fire by phone, give the location of fire, building number and be prepared to verify location.
5. The person activating fire alarm pull station must remain at a safe distance from the scene of the fire but readily available to provide information and direction to the Fire Department personnel.

.5 Interior and Exterior Fire protection & Alarm Systems

.1 DO NOT OBSTRUCT OR SHUT OFF FIRE PROTECTION EQUIPMENT OR SYSTEMS, INCLUDING BUT NOT LIMITED TO FIRE ALARM SYSTEMS, SMOKE/HEAT DETECTORS, SPRINKLER SYSTEM, PULL STATIONS, EMERGENCY CALL BUTTONS AND PA SYSTEMS, WITHOUT AUTHORIZATION FROM THE DEPARTMENTAL REPRESENTATIVE.

.2 WHEN ANY FIRE PROTECTION EQUIPMENT IS TEMPORARILY SHUT DOWN, ALTERNATIVE MEASURES AS PRESCRIBED BY THE DEPARTMENTAL REPRESENTATIVE SHALL BE TAKEN TO ENSURE THAT FIRE PROTECTION IS MAINTAINED.

.3 DO NOT LEAVE FIRE PROTECTION OR ALARM SYSTEMS INACTIVE AT THE END OF A WORKING DAY WITHOUT NOTIFICATION AND AUTHORISATION FROM THE DEPARTMENTAL REPRESENTATIVE. THE DEPARTMENTAL REPRESENTATIVE WILL ADVISE THE (FPO) OF THE DETAILS OF ANY SUCH EVENT.

.4 DO NOT USE FIRE HYDRANTS, STANDPIPES AND HOSE SYSTEMS FOR OTHER THAN FIRE FIGHTING PURPOSES UNLESS AUTHORISED BY DEPARTMENTAL REPRESENTATIVE.

.6 Fire Extinguishers

.1 Provide a minimum of 1-20 lb. ABC Dry Chemical Fire Extinguisher at each hot work or open flame location.

.2 Provide fire extinguishers for hot asphalt and roofing operations as follows:

a. Kettle area - 1-20 lb. ABC Dry Chemical;
b. Roof - 1-20 lb. ABC Dry Chemical at each open flame location.

.3 Provide fire extinguishers equipped as below:

c. Pinned and sealed;
d. With a pressure gauge;
e. With an extinguisher tag signed by a fire extinguisher servicing company.

.4 Carbon Dioxide (C02) extinguishers will not be considered as substitutes for the above.

.7 Roofing Operations

.1 Kettles:

.1 Arrange for the location of asphalt kettles and material storage with the Departmental Representative before moving on site. Do not locate kettles on any roof or structure and keep them at least 10m (30 feet) away from a building.

.2 Equip kettles with 2 thermometers or gauges in good working order; a hand held and a kettle-mounted model.

.3 Do not operate kettles at temperatures in excess of 232^{o}C (450 ^{o}F).

.4 Maintain continuous supervision while kettles are in operation and provide metal covers for the kettles to smother any flames in case of fire. Provide fire extinguishers as required in article 2.6.

.5 Demonstrate container capacities to Departmental Representative prior to start of work.

.6 Store materials a minimum of 6m (20 feet) from the kettle.

.2 Mops:

.1 Use only glass fibre roofing mops.

.2 Remove used mops from the roof site at the end of each working day.

.3 Torch Applied Systems:

.1 DO NOT USE TORCHES NEXT TO WALLS.

.2 DO NOT TORCH MEMBRANES TO EXPOSED WOOD OR CAVITY

.3 Provide a Fire Watch as required by article 2.9 of this section.

.4 Store all combustible roofing materials at least 3m (10 feet) away from any structure.

.5 Keep compressed gas cylinders a minimum of 6m (20 feet) away from the kettle, protected from mechanical damage and secured in an upright position.

.8 Welding / Grinding Operations

.1 Contractor to provide fire blankets, portable fume extraction devices, screens or similar equipment to prevent exposure to welding flash, or sparks from grinding.

.9 **Fire Watch**

.1 Provide a fire watch for a minimum of one hour after the termination of any hot work operation.

.2 For temporary heating, refer to General Instructions Section 00 010 00.

.3 Equip fire watch personnel with fire extinguishers as required by article 2.6.

.10 Obstruction of access/egress routes-roadways, halls, doors, or elevators

.1 Advise the Departmental Representative in advance of any work that would impede the response of Fire Department personnel and their apparatus. This includes violation of minimum overhead clearance, erection of barricades and the digging of trenches.

.2 Building exit routes must not be obstructed in any way without special permission from the Departmental Representative, who will ensure that adequate alternative routes are maintained.

.3 The Departmental Representative will advise the FPO of any obstruction that may warrant advanced planning and communication to ensure the safety of building occupants and the effectiveness of the Fire Department.

.11 Rubbish and Waste Materials

.1 Keep rubbish and waste materials to a minimum and a minimum distance of 6m (20 feet) from any kettle or torches.

.2 Do not burn rubbish on site.

.3 Rubbish Containers

.1 Consult with the Departmental Representative to determine an acceptable safe location for any containers and the arrangement of chutes etc. prior to bringing the containers on site.

.2 Do not overfill the containers and keep area around the perimeter free and clear of any debris.

.4 Storage

.1 Exercise extreme care when storing combustible waste materials in work areas. Ensure maximum possible cleanliness, ventilation and that all safety standards are adhered to when storing any combustible materials.

.2 Deposit greasy or oily rags or materials subject to spontaneous combustion in CSA or ULC approved receptacles and remove at the end of the work day or shift, or as directed.

.12 Flammable Liquids

.1 The handling, storage and use of flammable liquids is governed by the current National Fire Code of Canada.

.2 Flammable Liquids such as gasoline, kerosene and naphtha may be kept for ready use in quantities not exceeding 45 litres (10 imp gal), provided they are stored in approved safety cans bearing the ULC seal of approval and kept away from buildings, stockpiled combustible materials etc. Storage of quantities of flammable liquids exceeding 45 litres (10 imp gal) for work purposes, require the permission of the Departmental Representative.

.3 Flammable liquids are not to be left on any roof areas after normal working hours.

.4 Transfer of flammable liquids is prohibited within buildings.

.5 Do not transfer flammable liquids in the vicinity of open flames or any type of heat producing device.

.6 Do not use flammable liquids having a flash point below 38 ^{o}C (100 ^{o}F) such as naphtha or gasoline as solvents or cleaning agents.

.7 Store flammable waste liquids for disposal in approved container located in a safe, ventilated area. Waste flammable liquids are to be removed from the site on a regular basis.

.8 Where flammable liquids, such as lacquers or urethane are used, ensure proper ventilation and eliminate all sources of ignition. Inform the Departmental Representative prior to, and at the cessation of such work.

3. Questions and/or clarifications

.1 Direct any questions or clarification on Fire or General Safety, in addition to the above requirements, to the Departmental Representative.

END OF SECTION

NRC·CNRC

REQUEST FOR PROPOSAL

Fume Hood Performance Testing Services

Statement of Works:

1.0 Background

The National Research Council Canada has identified a requirement for verifying the performance of the Council's chemical fume hoods. This shall be achieved with an annual Airflow Velocity and Airflow Visualization Test for each fume hood, supplemented with a Tracer Gas Containment Test every 5 years.

2.0 Objectives

1. Test performance of all fume hoods according to the PWGSC standard MD 15128 - 2013: LABORATORY FUME HOODS - guidelines for building owners, design professionals;
2. Remove old fume hood labels and markings, and provide current certification labels;
3. Program both upper and lower limits of fume hood monitors;
4. Identify and tag fume hoods which are not safe

3.0 Work Requirements

3.1 Task/Activities

3.1.1 Annual tests

Provide annual testing for all of the fume hoods within each of the buildings identified in the Fume Hood Inventory List(s) forming part of this RFP. Testing shall comply with PWGSC MD 15128 - 2013: LABORATORY FUME HOODS - guidelines for building owners (MD 15128 – 2008 and earlier shall not be used.). The following are tests required annually for each of the fume hoods, with reference to the applicable section in guideline MD 15128:

- Face velocity – Section 6.9.2*
- Constant Air Volume Bypass effectiveness - Section 6.9.2
- Variable Air Volume flow response - Section 6.9.2
- Variable Air Volume minimum flow - Section 6.9.2
- Smoke visualization - Section 6.9.3
- Cross drafts – Section 6.9.1
- VAV response and stability – Section 6.9.2.4
- Fume hood monitor/alarm - Section 6.9.5
- Static pressure – Section 6.9.6.3
- Noise levels – Section 6.9.7
- Leak test of positive pressure exhaust ductwork (where applicable)
- Calibration of sensors connected to the building automation system (BAS)

3.1.2 Tracer Gas Tests

Provide a Tracer Gas Test each year for 20% of the fume hoods within each of the buildings identified in the Fume Hood Inventory List(s) forming part of this RFP. The fume hoods to receive a Tracer Gas Test shall be identified on-site by NRC.

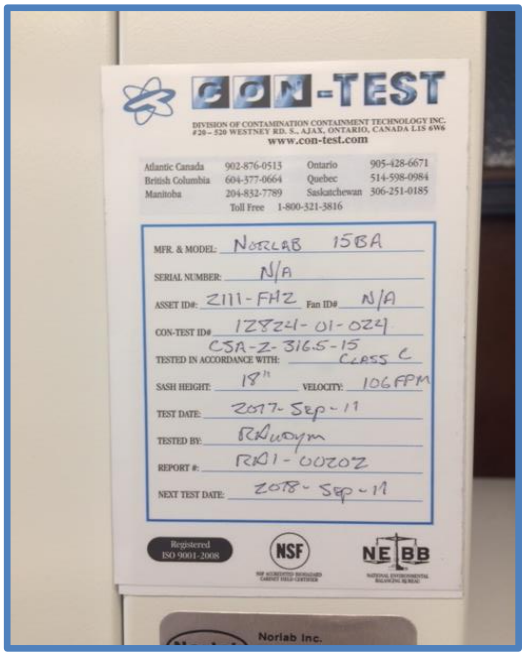
- The Tracer Gas Tests shall be according to the ANSI/ASHRAE Standard 110-2016 as modified by Section 6.9.4 of MD 15128.
- The tracer gas measurement threshold shall be defined in section 6.9.4 of guideline MD 15128, unless it is specified within the Fume Hood Inventory List.
- Referencing ANSI/ASHRAE 110 – 2016, tracer gas testing setup shall use the following two "Mannequin Breathing Zone (BZ) Heights":
  a) 22" (560 mm)
  b) 12" (305 mm)
- The tests shall include:
  - Tracer gas – static sash position
  - Tracer gas – peripheral scan
  - Tracer gas – sash movement effect
- Testing shall be done with the fume hoods in an "As-Used" configuration.
- For fume hoods which do not initially pass their respective tests, the NRC researchers shall be given the opportunity, at the time of the testing, to modify their research methods and/or research setup in order to facilitate the passing of all tests.
- If the fume hood cannot be made to pass after the researchers have made their modifications, the affected fume hood shall be tagged "OUT OF SERVICE" and "this fume hood is not safe to use". NRC may correct/repair the identified deficiencies and request a re-test of the fume hood.

3.2 Deliverables

3.2.1 For Fume Hoods which pass:

- Remove old and misleading equipment identification labelling.
- Affix new identification label as per Fume Hood inventory list(s). (New identification label will be provided by NRC)
- Affix a Certification Label, with the safe sash working height specified.
- Calibrate and re-program the fume hood monitor as needed.
- Affix a working surface "Keep Out" area;
- Submit a Certification Report as defined by MD 15128 - 2013, and ANSI/ASHRAE 110 - 2016;
- Certification Report must be provided in English and French.
- Identify and submit a list of deficiencies.
- Update the "Building Fume Hood Inventory List" to reflect the final configurations and notes any missing data such as fume hood type, model and serial numbers.

Sample Certification Label, to be supplied and affixed to the fume hood by the contractor:



3.2.2 For Fume Hoods which fail:

- Inform NRC-ASPM if a fume hood fails certification and affix an "Out of Service" sticker.
- Re-test the fume hood when notified by NRC-ASPM that adjustments or repairs are complete
- Upon a successful re-test, remove the "Out of Service" sticker, and complete items 1 a) through 1 g) for fume hoods which pass.

Sample Out of Service sticker, to be supplied by NRC and affixed to the fume hood by the contractor:

OUT OF SERVICE / DO NOT OPEN

This fume hood has been sealed by Facilities Maintenance ASPM for maintenance, servicing and/or repairs. This seal may not be removed except by maintenance personnel and only after it has been determined safe for use. Use of fume hood during maintenance could result in an exposure to harmful substances to you, others working in the area, and/or maintenance personnel.

Date & Time

Clearance Person

Contact Telephone Number

In case of emergency, contact Facilities Maintenance @ 902-401-9747

HORS SERVICE / INTERDIT D'UTILISER

Cette hotte a été scellée par le service d'entretien des installations des SAGI aux fins d'entretien ou de réparation et ne peut être utilisée que par le personnel d'entretien tant et aussi longtemps qu'elle n'aura pas été déclarée conforme. L'utilisation de cette hotte dans son état actuel pourrait vous exposer, vous, vos collègues et le personnel d'entretien, à des substances dangereuses.

Heure et date

Personne responsable de l'attestation

Numéro de téléphone

En cas d'urgence, composez le 902-401-9747

National Research Council Canada | Conseil national de recherches Canada | Canada

CAUTION

This piece of equipment has been cleared for maintenance, servicing and/or repairs. This seal may be removed in the event that this equipment is required for an emergency. There will be no non-emergency work with or storage of hazardous materials until this seal is removed.

Date & Time

Clearance Person

Contact Telephone Number

In case of emergency, contact Facilities Maintenance @ 902-401-9747

MISE EN GARDE

Cette pièce d'équipement a été approuvée aux fins d'entretien ou de réparation. Le scellé ne peut être enlevé qu'en situation d'urgence. Aucun autre type d'utilisation ni entreposage de substances dangereuses ne sera permis tant et aussi longtemps que ce scellé est en place.

Heure et date

Personne responsable de l'attestation

Numéro de téléphone

En cas d'urgence, composez le 902-401-9747

National Research Council Canada | Conseil national de recherches Canada | Canada

3.3 Reference Documents and Documentation:

- ANSI/ASHRAE 110 - 2016: Methods of Testing Performance of Laboratory Fume Hoods.
- PWGSC MD 15128 - 2013: LABORATORY FUME HOODS - guidelines for building owners, design professionals, and maintenance personnel.
- Any reference to ANSI/ASHRAE 110 - 1995 in MD 15128 - 2013 shall be replaced with ANSI/ASHRAE 110 - 2016. Therefore, the fume hood testing contractor shall adjust their test methods and reporting requirements to ensure compliance to both:
    - PWGSC MD 15128 - 2013 and;
    - ANSI/ASHRAE 110 - 2016;
- American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, 2016.
- Fume hood identification numbers to be used shall follow the format designated in the NRC " Fume Hood Maintenance Management Plan"
- Fume hoods to be tested have been identified in the Fume Hood List(s)
- Fume hood sash height testing requirements have been identified in the Fume Hood List(s
- NRC-CNRC "Fume Hood Maintenance Management Plan".

3.4 Method and Sources of acceptance:

There shall be three methods used for determining if the work is acceptable:

- Audits during testing: Random audits of the testing work shall be conducted by NRC.
- Verification of certification labels, fume hood markings and sash height indicators: Submit shop drawings of all labels and markings for NRC review for suitability.
- Quality control of final report contents: Submit a draft of the report for review by the NRC for completeness and clarity.

4.0 Other Terms and Conditions of the SOW

4.1 Contractor's Obligations

- Execute work and provide deliverables as defined in this contract.
- Safety orientation shall be provided to all his employees as well as those of any subcontractors regarding lab safety requirements and entry procedures.
- Provide testing Equipment Calibration Certification and Calibration certificate prior of any testing**.**

4.2 NRC's Obligations

- Provide access to the facility as required during regular business hours.
- Safety Orientation will be provided by NRC Researcher or Departmental Representative.

4.3 Location of Work, Work Site and Delivery Point

- 1200 Montreal Road, Ottawa, Ontario
- 100 Sussex Drive, Ottawa, Ontario
-

4.4 Language of Work

- English

4.5 Designated and/or Hazardous Substances Involved in the Project

There are hazardous chemicals present inside and/or in the vicinity of the fume hoods being tested. The contractor shall supply and wear appropriate Personal Protective Equipment (PPE) when carrying out the testing and avoid contact with the chemicals present.

5.0 Documents included with this RFP:

1. Appendix A: NRC-CNRC Fume Hood Management Plan
2. Appendix B: NRC-CNRC Fume Hood List

END

Special Instruction to Bidders:

1. Bidders are to submit two (2) sealed envelope:
    a. The first envelope is to contain the Statement of Conformance duly filled and the Technical Evaluation Criteria Proposal table, indicate in the table the proposal page where the information can be found,
    b. The second envelope must contain the Price Schedule.

2. Price Schedule envelope will remain sealed and only the Statement of Conformance /Technical Criteria proposal will be evaluated.

3. The Mandatory Criteria listed below will be evaluated on a simple Pass/Fail basis.

4. Proposals which fail to meet the mandatory Technical Criteria will be deemed non-responsive.

5. Bidders are advised to address these criteria in the order shown in the Statement of Conformance table and in sufficient depth in their proposals to enable a thorough assessment. NRC's assessment will be based solely on the information contained within the proposal. NRC may confirm information or seek clarification from bidders.

6. Bidders are advised that only listing experience without providing any supporting data to describe responsibilities, duties and relevance to the criteria will not be considered demonstrated for the purpose of this evaluation.

7. The Bidder should provide complete details as to where, when (month and year) and how (through which activities/ responsibilities) the stated qualifications/experience were obtained. Experience gained during formal education shall not be considered work experience. All criteria for work experience shall be obtained in a legitimate work environment as opposed to an educational setting. Co-op terms are considered work experience provided they are related to the required services.

8. Bidders shall use the Price Schedule to submit the cost to test and certify the performance of each type of fume hood. The prices shall be all-inclusive of any overhead and profit, and costs such as travel, equipment, rentals, subcontractors, FOB destination charges, Canadian customs, duties and excise taxes. Overhead expenses, but exclude taxes.

9. The fume hood Inventory lists forming a part of this RFP shall be deemed to represent an approximate number of fume hoods to be tested under this contract. Individual fume hoods may be removed from service, and new fume hoods may be installed over the course of the contract. All fume hoods that are unknown at this time are to be assumed to be constant volume (QTY 76) , the contract price will be adjusted as per unit price in the price schedule.

Special Instruction to Bidders (Cont'd):

10. Each fume hood shall be tested according to the annual testing protocol, and either certified out tagged-out within 12 months of the award of contract. 20% of these fume hoods, excluding ductless fume hoods, shall also be tested according to the tracer gas protocol. This shall be repeated annually during the course of the contract.

11. The term of the contract shall be 3 years, with options for two one-year extensions by mutual agreement between the contractor and the NRC.

12. The contract will be awarded to the bidder who provides the lowest total price for testing and certification services over the 3 year contract term, based on successfully meeting the Mandatory Technical Criteria.

13. To minimize disruption to NRC researchers, and to minimize site mobilizations and for pricing purposed, the Annual test and Tracer gas test will be performed during the same site visit.

14. Bidders Mandatory Conference and Visits:

    a. It is Mandatory that the bidder or a representative of the Bidder attends at least one of the two bidder's conferences and visits of the work site. Arrangements have been made for the conferences and site visit to be held at **100 Sussex drive, Ottawa, Ontario, Door #1.**

    b. COVID 19 special measures: refer to Buy and Sell Notification.

    Conference and visit, Session 1 – May 12th, 2020 at 9:30 am
    Conference and Visit, Session 2 – May 14th,2020 at 9:30 am

15. Bidders must provide the following Contact Information:

Contact information
Company/Agency:
Contact Name:
Address:
Telephone Number:
E-Mail Address:

Statement of Conformance:

Statement of Conformance for laboratory Fume Hood testing:

We _____ certify that our company/agency conforms to the qualification requirements stated in section 6.2 of MD 15128-2013 Laboratory Fume Hoods.

In particular the Following Technical Criteria have been met:

	Criteria	Proposal Page No	Pass/Fail (by NRC)
A	Bidders MUST be certified by a recognized Testing, Adjusting and Balancing organization such as NEBB, or the Canadian Associated Air Balance Council (CAABC). Bidders Must provide a copy of the Certification Certificate.		
B	Provide examples of three (3) projects for which verification of fume hoods was required. Information to include: Project name, Project date and location, number of hoods tested, and contact/reference* name.		
C	Bidders MUST have received ANSI/ASHRAE 110-2016 training, such as the Fume Hood Testing Seminar for Certified Professionals by the National Environmental Balancing Bureau (NEBB) or the HVAC Systems and Laboratory Design and the ASHRAE 110 Testing Workshop by the U.S. Eagleson Institute. Information to include: Name of the training institution, the name of the training course, the date of the course, name of the attendee(s), and a copy of the course completion certification.		
D	Bidders MUST have minimum of 3 years of experience in the verification of fume hoods and MUST be fully cognizant of the contents in MD 15128 – 2013: Guidelines for Building Owners, Design Professionals, and Maintenance Personnel.		

_____ _____

(Date) (Signature of Authorized Party)

Price schedule:

Fume Hood Type	Annual Test ($/hood) A - B - C			Tracer Gas Test ($/hood) D - E - F			Current QTY	Total Over 3 year A+B+C+D+E+F x QTY
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3		
Conventional - Standard	$	$	$	$	$	$	1	$ **G**
Conventional - Auxiliary Air	$	$	$	$	$	$	1	$ **H**
Constant Volume – Air Bypass	$	$	$	$	$	$	69 + 76	$ **I**
Variable Air Volume	$	$	$	$	$	$	148	$ **J**
High Performance	$	$	$	$	$	$	95	$ **K**
Radioisotope	$	$	$	$	$	$	1	$ **L**
Perchloric Acid	$	$	$	$	$	$	1	$ **M**
Ductless	$	$	$	$	$	$	1	$ **N**
						Grand Total over 3 years (G+H+I+J+K+L+M+N)		

Appendix A

Fume Hood Management Plan

TABLE OF CONTENTS

PREFACE

The Fume Hood Management Plan (FHMP) is required in order to comply with Canada Labour Code and provincial regulations governing the safe work environment for employees, public and contractors visiting or working in a building containing chemical fume hoods (CFH). This plan was developed in alignment with the NRC's "Directive on Laboratory Safety" and the "NRC Laboratory Safety Program".

This document supplements the information in Public Works and Government Services Canada MD15128-2013 (or latest edition) "Laboratory Fume Hoods". MD15128 is the foundation of the FHMP for NRC.

The Fume Hood Management Plan will perform several functions:

- To act as a common term of reference for the management of fume hoods in an NRC building anywhere in Canada.
- To facilitate a central depository of CFH information for each NRC building containing chemical fume hoods using the SAP PM module.
- To act as a mechanism to endeavour to comply with Federal and Provincial regulations.
- To communicate roles and responsibilities of those required to perform maintenance and testing work with or around chemical fume hoods.
- To coordinate energy conservation initiatives for CFH's nationally.

This document provides information, guidelines and work practices necessary for the Fume Hood Management Plan (FHMP) to be functional. The FHMP sets guidelines for maintenance, repair or other activities that may disturb fume hood air flows or function.

A qualified testing agency will be retained for certification of all fume hoods.

The FHMP includes guidelines for training of NRC staff.

DEFINITIONS

Advance Notification - In the context of this guideline, “advance notification” means providing communication by the ASPM team to the system users and other interested parties at least 72 hours prior to the start of a preventive maintenance activity on the fume hood ventilation system.

Chemical Fume Hood service interruption advance notices shall be sent to affected personnel and include the following information as it applies to the work, but only those that apply:

- Date/time of shutdown.
- Chemical Fume Hood Exhaust Fan system to be shut down.
- Supply Air Fan system to be shut down.
- Radioisotope Fume Hood Exhaust Fan system to be shut down.
- Air monitoring stations to be out of service.
- Re-activation date/time estimate or duration of outage.
- Number to call for further information.

Chemical Fume Hood [CFH] - In the context of this guideline, “fume hood” means “a boxlike structure enclosing a source of potential air contamination, with one open or partially open side, into which air is moved for the purpose of containing and exhausting air contaminants, generally used for bench-scale operations but not necessarily involving the use of a bench or table.”—ANSI/ASHRAE 110-2016

Face Velocity - the average velocity of air moving perpendicular to the hood face, usually expressed in feet per minute (fpm) or meters per second (m/s).

Laboratory Supply Air – Fresh air supplied to the laboratory using the building ventilation system to replace the exhaust air drawn out of the lab by the fume hood(s) and general exhaust system(s).

Maximum Opening - the position of the sash at which the hood has the largest opening.

Operating Opening - the position of the sash at which the hood user places the sash while working at the face of the hood. The operating opening should take into consideration ergonomics and all of the procedures to be conducted in the hood. There may be more than one operating opening.

Testing Agent - Testing of laboratory fume hoods should be performed by a qualified, independent testing agency that has proven experience in this type of work. Refer to section 6.2 of Guideline MD15128 for the recommended list of qualifications for test agencies or in-house test agents.

ROLES

Regional Fume Hood Coordinator

The role of Regional Fume Hood Coordinator exists as a responsibility of the Regional Site Operations Managers to provide services for Fume Hood management. Name and telephone number of the Regional Fume Hood Coordinators across the council are:

East Region (NS, NB, NFLD, PE)
Nadine Merkley
Tel: 902-426-5179 Fax: 902-426-9413

Ontario Region (ON)
Leo Bourque
Tel: 613-990-6472 Fax: 613-993-8911

Quebec Region (PQ)
Sirak Ogbaghebriel
Tel: 514-496-2665 Fax: 514-496-1928

West Region (MB, SK, AB, BC):
Robert Chercoe
Tel: 204-984-4890 Fax: 204-984-7217

Site Operations Supervisor (SOS)

The role of the Site Operations Supervisor exists as a responsibility of persons responsible for NRC sites or buildings across the council, for example, Site Operations Supervisor (or coordinator), Building Coordinator, Zone Supervisors, or Chief Operating Engineer.

Team Leader

The Team Leader is the person assigned responsibility for the management and safe operation of the research activities within a specific laboratory. Many management elements, such as the application of safety programs, may be delegated to a laboratory employee named Laboratory Custodian, Laboratory Champion, Area Custodian, Laboratory/Facility Coordinator or equivalent term, depending on the Research Center.

Health, Safety and Environment Advisor

The role of the HSE Advisor exists as a position within the Health, Safety and Environment Branch (HSE) to advise NRC staff and contractors about the risks associated with the work that they are undertaking.

CONTACT LIST

Building Name: *Name*
Name Address: *Number*

*ASPM, Site Operations Supervisor*** *Phone ( )*
*** Site Operations Supervisor or Building Coordinator*
Cell ( )

Committee on Occupational Safety and Health (COSH) Management Co-Chair
Name of Management Co-Chair *Phone ( )*
Cell ( )

Committee on Occupational Safety and Health (COSH) Employee Co-Chair
Name of Employee Co-Chair *Phone ( )*
Cell ( )

Standing Offer Fume Hood Consultant
Name of Fume Hood Consultant *Phone ( )*
Phone ( )
Cell ( )

Standing Offer Fume Hood Testing Agency
Name of Fume Hood Testing Agency
TBD *Phone ( )*
Cell ( )

Director of Real Property
Daniel Therien *Phone (613) 990-3770*
Cell ( )

ASPM, Health and Safety Officer
Ron Maisonneuve *Phone (613) 993-1111*
Cell ( )

GENERAL INFORMATION AND REQUIREMENTS

Objectives

The Fume Hood Management Plan is formulated to meet the following objectives:

- To establish and maintain an inventory of NRC's Chemical Fume Hoods using the SAP Plant Maintenance module.
- To maintain all Fume Hood and Fume Hood exhaust systems in a safe condition.
- To reduce the risk of chemical exposures to NRC staff, tenant staff, visiting workers, contractors and visitors.
- To manage all construction and maintenance activities that might affect fume hood operations including new installations and relocations.
- To endeavour to comply with all federal, provincial, territorial, and municipal requirements for occupational health and safety, and environmental control related to the maintenance and operation of fume hoods.
- To promote the "Shut the sash campaign" as part of the Low Carbon Initiative. The concept is: shut the sash for safety and to save energy and the environment.

Response to Policy Directives

Responsibility for Laboratory Safety is defined under Part II of the Canada Labour Code which is the basis for Canadian Occupational Health and Safety legislation. The latter requires the employer to take all necessary means to protect the health and well-being of all workers. NRC has issued the "Directive on Laboratory Safety" that ~~directive~~ addresses the health and safety responsibilities of all parties regarding NRC's laboratories.

The NRC Fume Hood Management Plan has been developed to meet PWGSC [PSPC] guideline MD15128-2013. Provincial Regulations are to be reviewed for the province in which the building is located to ensure compliance to the most stringent regulations.

The Shut the Sash Campaign has been developed to augment the NRC Low Carbon Initiative.

Exclusions

APSM's FHMP does not cover the following:

1. Standards for special equipment such as biological safety cabinets (BSC) or laminar flow clean benches. BSC or laminar flow hoods have a different function than CFH.
2. Requirements for canopy exhaust hoods, snorkels (sometimes called "local exhaust arms" or "elephant trunks"), slotted hoods, bench-top exhaust, and all other exhaust devices.

3. Requirements for perchloric acid fume hoods and their exhaust systems. These are described in MD 15129: Perchloric Acid Fume Hoods and Their Exhaust Systems.

Inclusions

ASPM's FHMP plan will include best practices, which are not covered in MD15128 related to:

1. Requirements for laboratory fume hood exhaust systems.
2. Details of the interrelationship between fume hood exhaust systems and laboratory HVAC systems.
3. Positive pressure exhaust ductwork inside buildings.
4. Requirements for radioisotope fume hoods and their exhaust systems. These are described in Canadian Nuclear Safety Commission document GD-52: Design Guide for Nuclear Substance Laboratories and Nuclear Medicine Rooms.

RESPONSIBILITIES

1. Administrative Services and Property Management
   a) Establish annual preventive maintenance program for all CFH systems in accordance with MD15128-2013 (or latest edition).
   b) Maintain records of fume hood testing.
   c) Maintain the inventory of CFH's in the SAP PM database.
   d) Issue contract(s) for annual conformance testing of all CFH's.
   e) Investigate hood failure, upon notification, through a review of the entire system (e.g., motor, belts, ducts, fan unit and electrical connections).
      i. Post a "Do Not Use" sticker on any hood that is taken out of service or failed. See Appendix D.
      ii. Notify research personnel in the affected lab and the local HSE Advisor as soon as possible. Provide an estimate for repair and return to service date, once a hood problem is known.
   f) Ensure personnel safety when repairing CFH.
   g) Repair and adjust flow rate to maintain a face velocity between 0.4 - 0.6 m/s [80 – 120 feet per minute] at 300 mm [12"] sash height or the reference sash height for the CFH.
   h) Issue contract for air balancing of laboratories if necessary based on evidence of pressure imbalances between supply and exhaust systems in the laboratory zones.
   i) Authorize Testing Agency to perform re-testing after repair or adjustment of CFH is complete.
   j) Notify affected laboratory staff that the CFH is available for use after repair or adjustment of CFH is complete.
2. Testing Agency
   a) Perform annual testing of all CFHs.
   b) Perform leak testing of positive pressure ductwork inside machine rooms, if applicable.
   c) Post a conformance sticker on each hood. See Appendix A.

d) Inform laboratory and ASPM SOS if a CFH fails certification and post a “Do Not Use” sticker. See Appendix D.
e) Assist in the communication between ASPM and users on status of hood repair.
f) Re-test fume hood when notified by ASPM that adjustment or repair is complete.
g) Remove “Do Not Use” sticker and inform ASPM after re-testing.
h) Prepare and submit a report covering all test results for each CFH tested including a narrative observation of the CFH condition.

3. Health, Safety and Environment (HSE)
   a) Provide necessary advice to ASPM, laboratory workers and contractors, when requested.
4. CFH Users/Lab Staff
   a) Adhere to the NRC Laboratory Safety Program and direction for the laboratory in which they are working.
   b) Advise ASPM of any CFH system failure immediately after detection.
   c) The Team Lead, shall ensure that during the maintenance time all hazardous materials located inside the CFH and associated storage cabinets are in closed containers within appropriate secondary containment, or removed from the CFH and that no chemical procedures are being conducted inside the affected fume hoods.

REQUIREMENTS FOR CHEMICAL FUME HOOD VENTILATION SYSTEMS

Fume Hood Exhaust Scheduled Maintenance:

For this section both laboratory exhaust and general exhaust systems will be termed as Fume Hood exhaust. ASPM shall perform preventive maintenance to the fume hood exhaust and general laboratory exhaust systems on a regularly scheduled basis. Maintenance frequencies and schedules are based on the type of installation in the facility or building and are monitored and tracked through SAP-PM. Only variable air volume hood systems will have a general laboratory exhaust system.

ASPM shall provide advance notification to relevant lab personnel and the local HSE Advisor of the planned interruption of fume hood service if the work will interrupt the fume hood operation. When laboratory procedures cannot be interrupted or relocated to another fume hood during the proposed time, ASPM will schedule with the laboratory a mutually convenient time for the maintenance. Fume hood preventive maintenance will be scheduled to be completed just before the next round of fume hood certification to avoid the need to do so more than once a year.

Once scheduled, the laboratory Team Leader or designate shall make necessary arrangements to conduct procedures requiring a CFH elsewhere, or suspend these activities until service is restored.

The testing agency must recertify fume hoods when maintenance is complete and give clearance for use if it passes re-testing. The agent shall inform ASPM that the testing is complete and provide the results of the testing.

Once preventive maintenance is complete, the Laboratory Team Leader, the affected lab personnel and the local HSE Advisor will be notified with an e-mail message from ASPM.

Maintenance Work Near Fume Hood Exhaust

Chemical fume hood exhaust stacks are located on building roofs, where the release of chemical contaminants to the outdoor environment occurs. Fume hood exhaust ducts terminate just above the roofline. If maintenance/repair work must be done on the roof near hood exhaust(s), ASPM must first notify the Laboratory Team Lead to provide the maintenance contractor with information regarding chemicals normally used in their fume hoods.

Exhaust Fans in Penthouses

In some buildings the fume hood exhaust fan is in a penthouse or fan room, therefore any duct leakage into the penthouse could contaminate the air in the room. Working near this equipment could potentially expose workers to hazardous chemicals used in the CFH's, albeit in extremely dilute concentrations. Exhaust fan machine rooms shall have appropriate warning signage. Contact the local HSE Advisor for guidance if necessary.

Laboratory Supply Air

ASPM shall perform preventive maintenance to the supply air systems on a regularly scheduled basis.

ASPM shall provide advance notification to relevant lab personnel and the local HSE Advisor of the planned interruption of supply air system(s).

ASPM staff will update the maintenance record in the ASPM Preventive Maintenance program.

Requirements for Radioisotope Fume Hoods and Their Exhaust Systems.

The fume hoods designated for use of radioactive substances shall conform to Canadian Nuclear Safety Commission GD-52 Design Guide for Nuclear Substance Laboratories and Nuclear Medicine Rooms.

- Ensure that the hood and the associated exhaust system are identified at the fume hood.
- Confirm that radioisotope fume hood system fans and controllers are connected to emergency power.
- Ideally radioisotope fume hoods are not manifolded to other fume hoods. See the design guide if you encounter manifolded fume hoods.
- Ensure that radioisotope ductwork is clearly labelled every 3 meters with the radiation warning symbol.
- Fume hood exhaust fans shall be located outside of the building.

Maintenance and testing of radioisotope fume hoods shall conform to the procedures outlined in MD15128 with respect to the various air flow tests required to be conducted.

ASPM shall provide advance notification to relevant lab personnel, the Radiation Safety Officer (RSO), and the local HSE Advisor of the planned interruption of radioisotope fume hood service. When laboratory procedures cannot be interrupted or relocated to another radioisotope fume hood during the proposed time ASPM will schedule with the laboratory a mutually convenient time for the maintenance work.

Laboratory personnel shall be responsible for ensuring that all radioactive material is securely stored prior to ASPM and the testing agency attending the lab. The RSO shall ensure all radioactive materials located inside the hoods and associated storage cabinets are in appropriate closed containers or removed from the unit. Chemical radioisotope procedures shall not be conducted inside the affected fume hood(s) during the maintenance time. Once scheduled, the laboratory shall make necessary arrangements to conduct procedures requiring local exhaust ventilation elsewhere, or suspend these activities until service is restored.

When maintenance is complete the Testing Agency must re-test the fume hood and give clearance for use if it passes.

Once ASPM has completed maintenance, the affected lab personnel, the RSO and the local HSE Advisor will be notified with an e-mail message.

Laboratory Air Monitoring

Monitoring of the air inside a lab will not be used as the primary resource for the assessment of hazards from Fume Hood operation. In buildings equipped with air monitoring stations the operation of the laboratory ventilation system will be controlled in part by those systems.

If the Regional Fume Hood Coordinator is requested to perform air monitoring under normal conditions in buildings without permanent air monitoring equipment, the requisitioner must demonstrate that all other engineering solutions have been attempted without a successful conclusion.

ASPM shall perform preventive maintenance to the air monitoring stations on a semi-annual basis, where installed. The fume hood control system will revert to standard flow rates while the air monitoring stations are being calibrated. This should not pose any interruption of service to the fume hood users.

CONFORMANCE TESTING

The Site Operations Supervisor through the Regional Fume Hood Coordinator will arrange for annual conformance testing of CFH's. The testing of each fume hood shall be in accordance with MD15128 appropriate for the type of hood being tested.

Annually the following tests shall be performed on each fume hood as appropriate:

- Face velocity – Section 6.9.2*
- Constant Air Volume Bypass effectiveness - Section 6.9.2
- Variable Air Volume flow response - Section 6.9.2
- Variable Air Volume minimum flow - Section 6.9.2
- Smoke visualization - Section 6.9.3
- Cross drafts – Section 6.9.1
- VAV response and stability – Section 6.9.2.4
- Fume hood monitor/alarm - Section 6.9.5
- Static pressure – Section 6.9.6.3
- Noise levels – Section 6.9.7
- Leak test of positive pressure ductwork (where applicable)
- Calibration of sensors connected to the building automation system (BAS)

** Sections listed refer to MD15128 sections for details of the test procedure.*

The Site Operations Supervisor through the Regional Fume Hood Coordinator will arrange for tracer gas testing of CFH's by a qualified Testing Agency on a 5 year rotational basis. Once every 5 years, every fume hood will be tested using the ANSI/ASHRAE Standard 110-2016 tracer gas test as modified by Section 6.9.4 of MD15128. Initially approximately 20% of the inventory will be selected for testing. Each subsequent year another 20% will be tested until the entire current inventory is tested. All new hoods will be tested as part of their commissioning process. The tests will include:

- Tracer gas—static sash position
- Tracer gas—peripheral scan
- Tracer gas—sash movement effect

All fume hoods should be operated at an average face velocity in the range 0.4 - 0.6 m/s [80 – 120 feet per minute] at 300 mm [12"] sash height.

Special-use fume hoods, for example those that contain centrifuges, high-heat loads, ultrasonic equipment, etc., should be evaluated on an individual basis.

While determining an adequate face velocity is necessary to ensure the proper performance of a fume hood, a test result in the recommended range does not, by itself, guarantee containment and elimination of contaminants.

Correct sash opening and face velocity should be prominently and permanently displayed on the fume hood.

VAV fume hoods will require multiple face velocity tests and a flow response test. Conduct an observation of the CFH physical condition and add that note to the report.

The CFH exhaust fan motor and all wiring and equipment should bear the approval label of, and be installed in accordance with, the Canadian Electrical Code CSA 22.1. Electrical equipment should be of a type suitable to the hazards of the location as defined in the Canadian Electrical Code, Section 18.

In the event that a deficiency is identified during operation, maintenance or conformance testing, HSE environmental personnel shall be notified of any suspected release of hazardous substances to the environment.

DECOMMISSIONING AND REMOVAL OF FUME HOODS

Scope

The following procedure must be implemented by any Research Center, Research Officer, or Technical Officer that is planning to vacate or renovate a lab that contains a CFH. Decommissioning is required prior to removing a fume hood from a laboratory.

The following procedures for decommissioning a CFH shall also apply to Industry Partner Facility tenants when they vacate a laboratory upon the expiry of their licence of occupation.

Responsibilities

Upon being notified of the Fume Hood closure, the Team Lead shall ensure that the laboratory conditions and hazards are reviewed with the Laboratory staff or designate prior to any work or removal being done. The HSE Advisor may be invited to assist the Research Center with technical guidance to ensure the closure is performed in accordance with regulations, with the goal of safely minimizing cost and impact.

The Team Lead, Laboratory staff or designate must ensure the proper disposal of all chemicals, chemical waste, equipment and hazardous materials used in the Fume Hood or stored in associated chemical storage cupboards.

The Team Lead, Laboratory staff or designate must ensure the fume hood is in a condition that is safe for the construction/renovation workers who may come into contact with it.

The ASPM SOS shall ensure that the fume hood is removed safely and that the Laboratory is repaired or renovated to create a safe workable condition.

Procedure

The Research Center must notify ASPM of a planned fume hood closure or renovation with a minimum of four weeks' notice. If renovations are involved, the ASPM Site Operations staff must be involved in the initial space examination.

The Team Lead will complete a risk assessment review to identify if specialised processes are required as part of the decommissioning.

The Team Lead will circulate a list of all identified hazards involved in the closure to the Director of Research with copies to the HSE Advisor and ASPM SOS. A local member of the Hazard Prevention Program who is trained in hazard risk assessment may be engaged to define the associated risk.

Any chemicals, equipment or hazardous materials must be removed from the CFH, which includes transfer to another lab or proper disposal.

Laboratories with Nuclear Substances and Radiation Device Licence must complete required exit documentation, including wipe tests, with the Radiation Safety Officer.

All compressed gas cylinders must be removed from the laboratory.

When the lab has been vacated, the Team Lead will survey the space to confirm that all hazards have been removed and they will notify the Director of Research and SOS that the Fume Hood has been decommissioned and shall include copies of the Laboratory Decommissioning Checklist - Tool A (Appendix B) by e-mail.

Partner Companies will survey the space to confirm all hazards have been removed and handled properly and safely. The company will notify the ASPM SOS that the Fume Hood has been decommissioned and shall send copies of their Laboratory Decommissioning Checklist - Tool A by e-mail. The ASPM SOS will forward the report to the ASPM Real Property division.

Workspaces shall not be turned over to building maintenance contractors for renovation or demolition until they have been inspected and approved by the ASPM SOS and the Research Center or HSE Advisor.

The ASPM SOS for the site shall arrange for the full and appropriate cleaning of the vacated space.

The ASPM SOS shall arrange for the removal, reuse or disposal of the fume hood using internal labour and/or contractors. If the fume hood contains asbestos-bearing materials, such as asbestos-cement panels, the SOS will arrange for an authorized contractor to remove all the material prior to removal of the fume hood.

When a CFH is being relocated or removed all piped utility service connections shall be disconnected and capped in accordance with good practice and applicable codes. All power and data lines shall be removed and terminated in accordance with the codes. The building automation system shall be revised to account for the removal of the exhaust system, general exhaust, and make-up air supply to the laboratory. Set points and alarms shall be adjusted in the building automation system as required to reflect the change in operating parameters. If an air monitoring system is in place determine if it is still required and adjust or relocate the equipment as required.

TRAINING

All NRC personnel, who have responsibilities under the Fume Hood Management Program, must be trained on Fume Hood operations, maintenance and testing requirements. The ASPM Training Coordinator and the Regional Fume Hood Coordinator will maintain records of training. Record of such training will be kept on the employee’s file.

EQUIPMENT NAMING PROTOCOL

Each NRC fume hood shall be provided with a unique identifier that will be used in the SAP Planned Maintenance module to generate PM work orders and to collect all maintenance records for each fume hood. In some cases where there is more than one fume hood in a room there could also be an alphabetical identifier (ex: A, B, C, …). Similarly the associated exhaust fans, ducts and any air valves will have a preferred label naming protocol.

English

Fume Hoods
Site ID – **FHD** – *sequential number or room number*

e.g.: 12FHD03A
SAS1FHD4433

Exhaust Fans
Site ID – **XAF** – *sequential number or room number*

e.g.: 37XAF06
EDM1XAF3122

Ductwork
Site ID – **DCT** – *sequential number or room number*

e.g.: 50DCT12
VAN02DCT2045

Air Valves
Supply (make-up) Air Valve
Site ID – **LAV** – *sequential number or room number*

General Exhaust Valve
Site ID – **GEX** – *sequential number or room number*

CFH Exhaust Air Valve
Site ID – **EAV** – *sequential number or room number*

e.g: 37LAV02
STJ1GEX73

Français

Hotte d'évacuation
Identification du site – **HOT** - *numéro séquentiel ou numéro de pièce*

e.g: 12HOT03A
BOU1HOT256

Ventilateur Évacuation
Identification du site – **VEV** - *numéro séquentiel ou numéro de pièce*

e.g: 37VEV06
MTL1VEV3122

Conduit
Identification du site – **CDT** - *numéro séquentiel ou numéro de pièce*

e.g: 50CDT12
SAGCDT125

Vannes d'air (être déterminé)
Valve
Identification du site –**VDA** - *numéro séquentiel ou numéro de pièce*

Valve générale évacuation
Identification du site – **VGE** - *numéro séquentiel ou numéro de pièce*

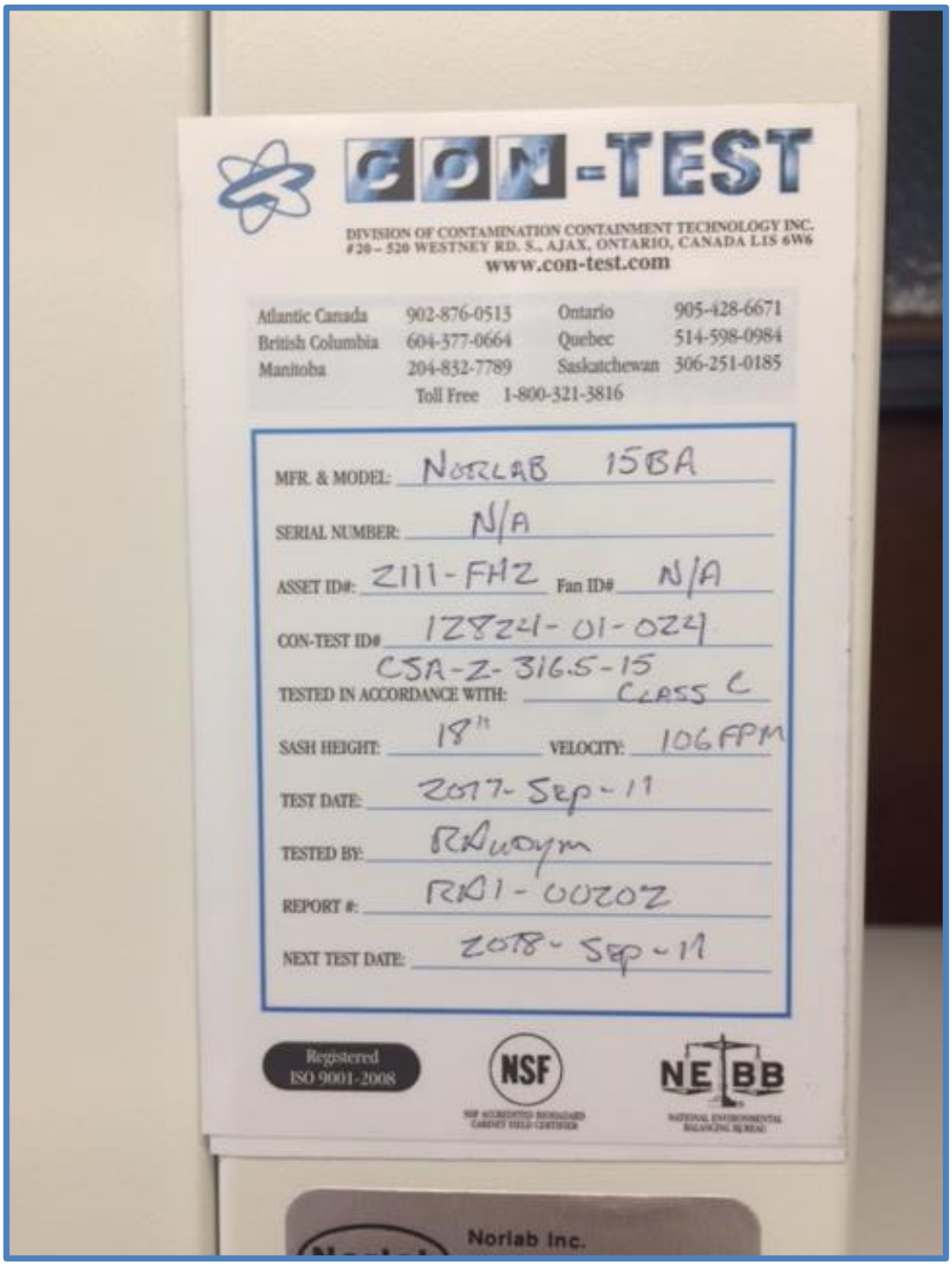
Valve HOT évacuation
Identification du site – **VHE** - *numéro séquentiel ou numéro de pièce*

e.g.: 37VDA02
BOU1VGE2001

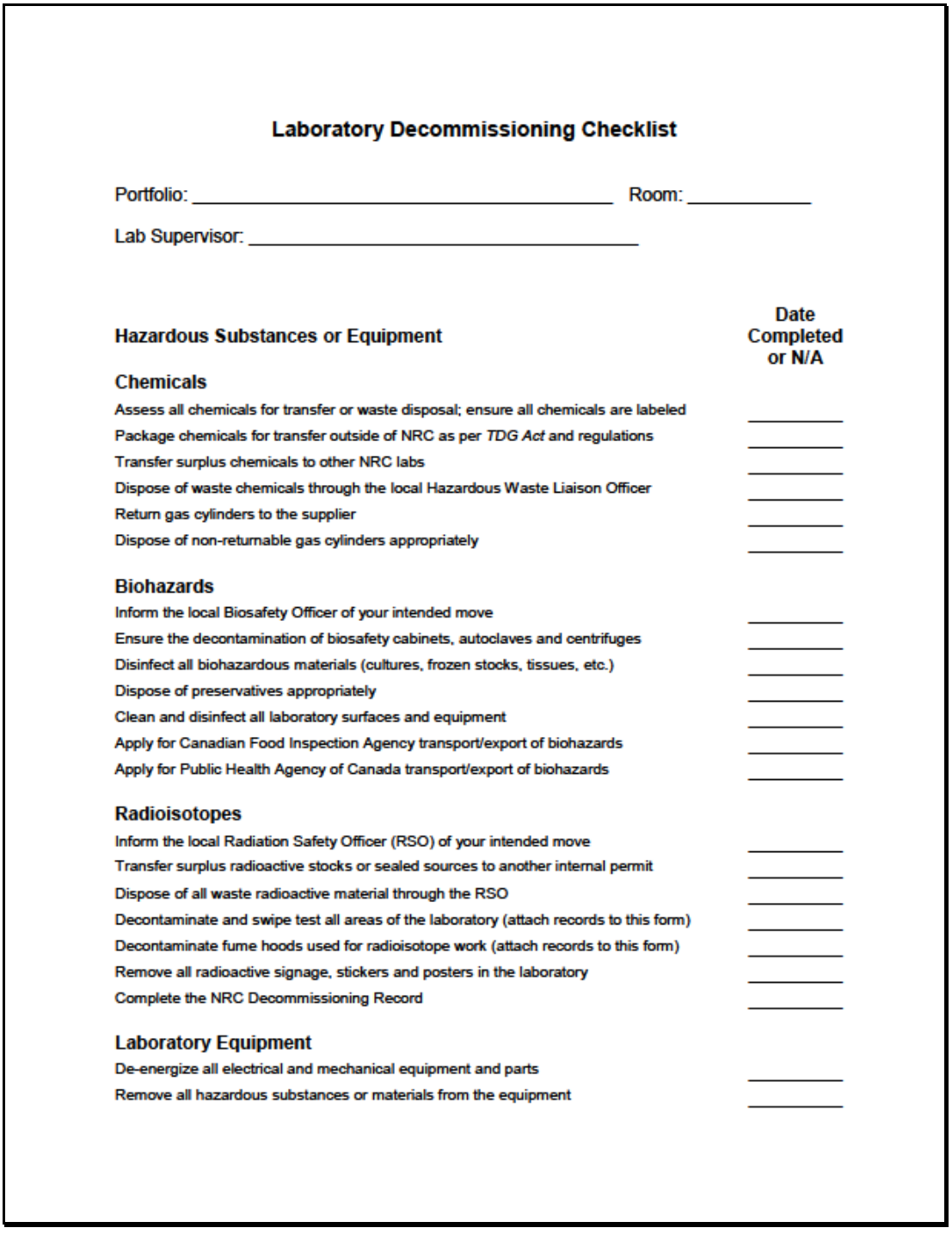
End of Fume Hood Management Plan

APPENDIX A – Conformance Sticker

Sample of Conformance Sticker



APPENDIX B –
NRC Laboratory Decommissioning Checklist – TOOL A



Laboratory Decommissioning Checklist

Portfolio: _____ Room: _____

Lab Supervisor: _____

Hazardous Substances or Equipment	Date Completed or N/A
Chemicals	
Assess all chemicals for transfer or waste disposal; ensure all chemicals are labeled	_____
Package chemicals for transfer outside of NRC as per *TDG Act* and regulations	_____
Transfer surplus chemicals to other NRC labs	_____
Dispose of waste chemicals through the local Hazardous Waste Liaison Officer	_____
Return gas cylinders to the supplier	_____
Dispose of non-returnable gas cylinders appropriately	_____
Biohazards	
Inform the local Biosafety Officer of your intended move	_____
Ensure the decontamination of biosafety cabinets, autoclaves and centrifuges	_____
Disinfect all biohazardous materials (cultures, frozen stocks, tissues, etc.)	_____
Dispose of preservatives appropriately	_____
Clean and disinfect all laboratory surfaces and equipment	_____
Apply for Canadian Food Inspection Agency transport/export of biohazards	_____
Apply for Public Health Agency of Canada transport/export of biohazards	_____
Radioisotopes	
Inform the local Radiation Safety Officer (RSO) of your intended move	_____
Transfer surplus radioactive stocks or sealed sources to another internal permit	_____
Dispose of all waste radioactive material through the RSO	_____
Decontaminate and swipe test all areas of the laboratory (attach records to this form)	_____
Decontaminate fume hoods used for radioisotope work (attach records to this form)	_____
Remove all radioactive signage, stickers and posters in the laboratory	_____
Complete the NRC Decommissioning Record	_____
Laboratory Equipment	
De-energize all electrical and mechanical equipment and parts	_____
Remove all hazardous substances or materials from the equipment	_____

Click image to open Checklist – 2 pages

APPENDIX C – Fume Hood Inventory

Fume Hood Inventory: (Examples)

Room	Asset Identifier	Type	Size
M9/108	09FHD01	CV	1.5 m
M54/xxxx	54FHD09	VAV	1.8m
EDM1/2304	EDM1FHD2304	HE	1.8m

NRC asset identification practice will include the term “FHD” in the identifier for all sites. Generally, the initial term indicated the building, for example: building M-9 and M-54 on the Montreal Road campus in Ottawa or building EDM1 in Edmonton. The final numbers are the room number or a sequential numerical identifier. In some cases where there are more than one fume hood in a room there could be an alphabetical identifier (ex: A, B, C, …).

NRC Fume Hood Management Plan

Initial Data Collection

Region:	West	Ontario	Quebec	East	Totals
Inventory					
Constant Volume	80	257	83	3	423
Variable Air Volume	141	134	88	61	424
High Performance	0	10	0	0	10
Perchloric Acid Hood	0	0	0	0	0
Radioisotope Hood	1	0	1	0	2
Walk-in Hood	2	7	0	2	11
Ductless Fume Hood	0	0	80	0	80
Other	1	102	29	0	132
Total Fume Hoods	225	510	281	66	1082
Exhaust Systems					
Individual Fume Hood Fans	49	235	58	3	345
Number of Manifolds	16	15	31	8	70
Number of manifold fans	23	34	35	16	108

APPENDIX D – Out Of Service Notice Example

OUT OF SERVICE / DO NOT OPEN

This fume hood has been sealed by Facilities Maintenance ASPM for maintenance, servicing and/or repairs. This seal may not be removed except by maintenance personnel and only after it has been determined safe for use. Use of fume hood during maintenance could result in an exposure to harmful substances to you, others working in the area, and/or maintenance personnel.

Date & Time

Clearance Person

Contact Telephone Number

In case of emergency, contact Facilities Maintenance @ 902-401-9747

HORS SERVICE / INTERDIT D'UTILISER

Cette hotte a été scellée par le service d'entretien des installations des SAGI aux fins d'entretien ou de réparation et ne peut être utilisée que par le personnel d'entretien tant et aussi longtemps qu'elle n'aura pas été déclarée conforme. L'utilisation de cette hotte dans son état actuel pourrait vous exposer, vous, vos collègues et le personnel d'entretien, à des substances dangereuses.

Heure et date

Personne responsable de l'attestation

Numéro de téléphone

En cas d'urgence, composez le 902-401-9747

National Research Council Canada / Conseil national de recherches Canada — Canada

CAUTION

This piece of equipment has been cleared for maintenance, servicing and/or repairs. This seal may be removed in the event that this equipment is required for an emergency. There will be no non-emergency work with or storage of hazardous materials until this seal is removed.

Date & Time

Clearance Person

Contact Telephone Number

In case of emergency, contact Facilities Maintenance @ 902-401-9747

MISE EN GARDE

Cette pièce d'équipement a été approuvée aux fins d'entretien ou de réparation. Le scellé ne peut être enlevé qu'en situation d'urgence. Aucun autre type d'utilisation ni entreposage de substances dangereuses ne sera permis tant et aussi longtemps que ce scellé est en place.

Heure et date

Personne responsable de l'attestation

Numéro de téléphone

En cas d'urgence, composez le 902-401-9747

National Research Council Canada / Conseil national de recherches Canada — Canada

APPENDIX E – Emergency Procedures

Example(s) of possible emergencies: Materials inside the fume hood cause an explosion, loss of static pressure on manifold.

Follow the site's Emergency Response Plan [ERP] for the specific emergency, they supersede the procedure below. The goal is to contain contamination; decontaminate and/or enclose problem areas.

Air-handling units in the area must remain operating particularly the exhaust fans serving the affected equipment. Post warning signs alerting staff of the dangers.

If procedures cannot be strictly observed due to the urgency, some judgement will be required of the person responsible for the work, and other staff or contractors responding to the emergency. The general principle of emergency response work is to protect the workers performing the repair and to minimize the exposure of others to the chemicals previously contained in the fume hood. The procedures given below should be followed to the extent possible in the circumstances of the emergency.

Vacate the area of unnecessary personnel.

Limit the chemical or radioactive contamination. Use spill kits or other laboratory safety procedures to contain the release of gaseous, liquid or solid material release. Wear the appropriate personal protective equipment.

Contact the Local Emergency Response Team (ERT) for guidance on contamination; or, in the absence of them, the Site Operations Supervisor, the Research Center facility manager, the Team Leader, Laboratory staff, the Research Center Director of Research and the local HSE Advisor.

The Fume Hood emergency situation is under control when the chemicals or radioactive materials relating to the emergency are secure and no longer pose a risk to personnel or property.

Inform the following of the emergency:

- Site Operations Supervisor
- Building Emergency Officers (CBEO, DCBEO)
- COSH committee for the site
- All occupants in the building
- Regional Fume Hood Coordinator
- Partner Organization (if Non-salaried workers are present)

Arrange for the Site Operations Supervisor to:

- Inspect the work as soon as possible and, in conjunction with the regulatory bodies,
- Oversee the corrective work and
- Approve the corrective work required.

Consult NRC managers if the CFH and/or associated systems are damaged beyond simple repair to determine the best course of action for the return to operation. If it is decided to remove the fume hood and any damaged benching, or damaged systems, replace the damaged units and repair the systems using NRC staff, approved vendors and qualified contractor(s).

Document the event by completing an electronic Hazardous Occurrence Investigation Report (e-HOIR) and complete a Fume Hood related work record in Plant Maintenance.

DISPOSE of any remaining chemicals in accordance with good practice.

Appendix B

NRC-CNRC Fume Hood Inventory List

Region: Central
Site: Ottawa - Montreal Road
Building ID: Multiple

Fume hoods are identified as follows:
Bldg ID + **FHD** + *sequential no. or room no* .
Example: HFX-01FHD001

Abreviation Legend

Fume Hood Type:

CON	conventional
COA	conventional - auxillary air
CVB	constant volume - air bypass
VAV	variable air volume
HIP	high performance
RAD	radioisotope
PER	perchloric acid

Sash Opening Type:

V	vertical
H	horizontal
C	combination

Test Type:

FV	face velocity and visualization
TG	tracer gas

VAV Control:

Pnx	Phoenix Controls
Hny	Honeywell
Bcn	Bascon Control Technologies
Tri	Triatek
TSI	TSI Controls

Manufacturers:

Alb	Allen-Brad	Lab	Labconco
Bed	Bedcolab	Mic	Design Filtration Microzone
Cab	Canadian Cabinets	Mot	Mott Manufacturing or MottLAB
Can	Canlab	Nor	Norlab
Cif	CIF	Paa	Paasche Al
Dfm	DFMZ GRUP	Pra	Praxair
Dig	Digital Matrix	Rey	ReynoldsTech
Ele	Thermo Electron Corp.	Sca	SCALA
Erl	Erlab Inc	Sen	Sentry Air (Lab Crafters)
Fhm	Fisher Ham	Sis	SISCO
Fin	Fine Line	Sup	Supreme Air
Fis	Thermo Fisher Scientific	Tep	TEPCO (Div of Trion)
Flo	Flowsafe	Tha	Thar Techn
Ham	Hamilton S	Ver	Versa Lab
Haw	H.H. Hawki	Vor	Vortex
Imp	Imperial Surgical	Wal	Waldner
Kew	Kewaunee Scientific	Wes	Western

See the comments column for special details such as walk-in or ductless fume
Where a field is left blank, the information is unknown

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	100D	CVB									Cab	CC-70-SD	9658	
02	100										Cab	CC-70-CD	9469	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
02	117B										Cab	CC-70-DS		

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
03	144										Mottlab	735400	10443-09	
04	134										CAB	CC-70-HD	10604	
07	112													
09	107A										Nor			

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
100	355	VAV	5	18		V	Y	Y	2007	FV				
62	145	VAV	5	18		V	Y	Y	2007	FV	Bed	23-0517	14997-155	
63	149	CVB	8	18		V	Y	Y	2007	FV	Bed			
64	151	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-156	
86A	245	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-156	
86B	245	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14915-22	
87	246	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-155	
88	247	VAV	5	18		V	Y	Y	2007	FV	Bed	23-0517	14997-155	
89	248	VAV	5	18		V	Y	Y	2007	FV	Bed	23-0517	14997-155	
90A	249	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-158	
90B	249	VAV	5	18		V	Y	Y	2007	FV	Bed	23-0517	14997-156	
90C	249	VAV	5	18		V	Y	Y	2007	FV	Bed	23-0517	14997-12	
90D	249	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-23	
91	251	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517		
92	255	VAV	8	18		V	Y	Y	2007	FV	Bed	230517		
98	349	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517		
99	351	VAV	8	18		V	Y	Y	2007	FV	Bed	23-0517	14997-156	
65	155	VAV	7	18		V	Y	Y	2007	FV	Cab			
82	238	VAV	5	18		V	Y	Y	2007	FV	Cif			
53B	110	HIP	8	18		V	Y	Y	2007	FV	Mic	803-8565	MC-60-SD	
53C	110	HIP	5	18		V	Y	Y	2007	FV	Mic			
61	143	VAV	6	18		V	Y	Y	2007	FV	Mic	MG-70-SD-5	803-7520	
51	107	HIP	5	18		V	Y	Y	2007	FV	Mot	7354000	1043-08	
52A	109	HIP	5	18		V	Y	Y	2007	FV	Mot	7324000	5000	
53A	110	HIP	4	18		V	Y	Y	2007	FV	Mot	S-7254000	11099-07	
53D	110	HIP	5	18		V	Y	Y	2007	FV	Mot	7354000	11099-07	
53E	110	HIP		18			Y	Y	2007	FV	Mot	7254000	11099-07	
55	113	CVB	5	18		V	Y	Y	2007	FV	Mot	7354000	10443-07	
57	115	VAV	8	18		V	Y	Y	2007	FV	Mot	7554000	10433-04	
73	207	VAV	6	18		V	Y	Y	2007	FV	Mot	7554000	10443-03	
75	210	VAV	5	18		V	Y	Y	2007	FV	Mot	7351000	11099-03	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
76	212	VAV	8	18		V	Y	Y	2007	FV	Mot	7351000	11099-06	
93A	225	VAV	5	18		V	Y	Y	2007	FV	Mot			
93B	227	VAV	8	18		V	Y	Y	2007	FV	Mot			
93C	227	VAV	6	18		V	Y	Y	2007	FV	Mot			
81A	236	VAV	5	18		V	Y	Y	2007	FV	Mot			
81B	236	VAV	5	18		V	Y	Y	2007	FV	Mot	7354000	11099-13	
84	242	VAV	8	18		V	Y	Y	2007	FV	Mot	VHB-8	F-3561-08	
14	B25	VAV	5	18		V	Y	Y	2007	FV	Mot			
03A	B4	CVB	7	18		V	Y	Y	2007	FV	Mot	7211000	2492-03	
03B	B4	CVB	4	18		V	Y	Y	2007	FV	Mot	7511000	3441-01	
04B	B6	CVB	5	18		V	Y	Y	2007	FV	Mot	7411000	2492-02	
04A	B6A	CVB	5	18		V	Y	Y	2007	FV	Mot	7311000	11099-02	
07	B7	VAV	6	18		V	Y	Y	2007	FV	Mot	7311000	2492-05	
28	G13			18			Y	Y	2007	FV	Mot	7451000	11099-03	
29A	G16	CVB	5	18		V	Y	Y	2007	FV	Mot	7451000	11099-01	
29B	G16	CVB	5	18		V	Y	Y	2007	FV	Mot	7351000	11099-05	
31	G19	VAV	5	18		V	Y	Y	2007	FV	Mot			
32	G21	VAV	5	18		V	Y	Y	2007	FV	Mot			
39A	G39	CVB	5	18		V	Y	Y	2007	FV	Mot			
39B	G39	CVB	5	18		V	Y	Y	2007	FV	Mot			
35A	G41	VAV	5	18		V	Y	Y	2007	FV	Mot	735400	11099-10	
35B	G41	VAV	5	18		V	Y	Y	2007	FV	Mot	7354000	11099-11	
78	216	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASC5		
79	218	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASC5		
71	240B	HIP		18		C	Y	Y	2007	FV	Sen	HBASC8		
85	244	HIP	6	18	0.18	C	Y	Y	2007	FV	Sen	HBASC5		
18	B11	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASC5		
13	B19	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASC5		
10	B22	CVB	5	18	0.13	C	Y	Y	2007	FV	Sen			
12	B24	VAV	6	18	0.18	C	Y	Y	2007	FV	Sen			

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
06	B5	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASC5		
08	B8	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen	HBASCS		
30	G17	CVB	6	18	0.18	C	Y	Y	2007	FV	Sen			
34	G33	HIP		18		C	Y	Y	2007	FV	Sen	HWSASC6		
37A	G40	HIP	8	18	0.3	C	Y	Y	2007	FV	Sen			
37B	G40	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen			
37C	G40	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen			
38A	G44	CVB		18		C	Y	Y	2007	FV	Sen			
38B	G44	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen			Walk-in
42	G45	HIP	8	18	0.3	C	Y	Y	2007	FV	Sen			
41	G46	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen			
43	G47	HIP	5	18	0.13	C	Y	Y	2007	FV	Sen			
40A	G48	HIP		18		C	Y	Y	2007	FV	Sen			
40B	G48	HIP	6	18	0.18	C	Y	Y	2007	FV	Sen			
52B	107A	HIP	5	18		V	Y	Y	2007	FV	Ver			
54A	112	HIP		18			Y	Y	2007	FV	Ver	VHB-6	F3360-04	
54B	112	HIP		18			Y	Y	2007	FV	Ver	VHB-4	F3360-01	
56A	114			18			Y	Y	2007	FV	Ver	VHB-6	F3360-07	
56B	114			18			Y	Y	2007	FV	Ver	VHB-4	F3360-02	
56C	114			18			Y	Y	2007	FV	Ver	VHB-6	F3360-06	
58A	116	HIP		18			Y	Y	2007	FV	Ver	VHB-6	F3361-03	
58B	116	HIP		18			Y	Y	2007	FV	Ver	VHB-8	F3360-08	
58C	116			18			Y	Y	2007	FV	Ver	VHW-8	F3361-01	
58D	116			18			Y	Y	2007	FV	Ver	VHW-6	F3361-01	
58E	116	HIP		18			Y	Y	2007	FV	Ver	VHB-6	F3360-07	
72A	205	VAV	5	18		V	Y	Y	2007	FV	Ver	VHB-5	F3561-03	
74A	209	VAV	5	18		V	Y	Y	2007	FV	Ver	VHB-5	F3561-01	
74B	209	VAV	5	18		V	Y	Y	2007	FV	Ver	VHB-5	F3561-04	
80	235	VAV	6	18		V	Y	Y	2007	FV	Ver	VHB-6	G-3050-05	
83	240	VAV	8	18		V	Y	Y	2007	FV	Ver	VHB-8	F-3561-08	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
33A	G35	VAV	6	18		V	Y	Y	2007	FV	Ver	VHB-6	F3561-06	
33B	G35	VAV	5	18		V	Y	Y	2007	FV	Ver	VHB-6	F3561-02	
36A	G42	VAV	6	18		V	Y	Y	2007	FV	Ver	VHB-6	F3561-07	
59A	118	HIP		18			Y	Y	2007	FV	Vor			
59B	118	HIP		18			Y	Y	2007	FV	Vor			
59C	118	HIP		18			Y	Y	2007	FV	Vor			
60A	120	CVB		18			Y	Y	2007	FV	Vor			
60B	120	CVB		18			Y	Y	2007	FV	Vor			
60C	120	CVB		18			Y	Y	2007	FV	Vor			
05	B3	VAV	5	18		V	Y	Y	2007	FV	Mot	7311000	2492-01	
27	G10	VAV		18		V	Y	Y	2007	FV	Mot	7321000	5307	
19A	B21	VAV	4	18		V	Y	Y	2007	FV	Mic	AH-4-99-PP	806-5718	
24A	G6			18			Y	Y	2007	FV	Mic	BCP78C001	33786	
09	B10	CVB	6	18	0.18	C	Y	Y	2007	FV	Sen	HBASC5		Walk-in
23	G3	HIP	6	18	0.18	C	Y	Y	2007	FV	Sen	HBASC6		
25B	G6			18			Y	Y	2007	FV		LHV-6C	34105-059	
25A	G6			18			Y	Y	2007	FV		TXH-4	34046-016	
19B	B21	VAV	5	18		V	Y	Y	2007	FV	Mic	TXH-4	33651B-30	
19C	B21			18			Y	Y	2007	FV	Mic	TXH-4	33991-014	
11A	B23	VAV	5	18		V	Y	Y	2007	FV	Mic	TXH-4	32514-011	
11B	B23			18			Y	Y	2007	FV	Mic	TXH-4	336514-29	Walk-in
24C	G4			18			Y	Y	2007	FV	Mic	TXH-4	336510-32	
24B	G6			18			Y	Y	2007	FV	Mic	TXH-4	336510-31	
24D	G4			18			Y	Y	2007	FV	Mic			
45	G45	HIP		18		C	Y	Y	2007	FV	Sen	HBASC8		Walk-in

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	121													
02	146													

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	130													
02	128													TELESCOPIC EXHAUST
03	127										NOR	70BA-F		

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	48	CVB												
02	90	CVB									Nor	941A-B	T247TN15667	
03	96	CVB									Nor	941A-B	T247TN15667	
04	90	CVB									Nor	941A-B	T247TN15667	
05	96	CVB									Nor	941A-B	T247TN15667	
15	54	CVB									Bed	6A48-FRP-E	34091-1	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	131	CVB												
02	139													
03	153													
04	162										Lab	HWASC6		
05	164										Lab	HBASC6	47171	
06	164										Lab	HBASC6	52112	
07	169													
09	157													
10	051/055											4-7321000	2484-06	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01														
02	323										Lab	X-STREAM 110410000..	170339582B	
03	340										Ele	FORMA CLASS II, A2	102473	
04											Vor		3000794	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	XSB14													
02	X18A													
03	X18A													
04	X18B													
05	X18B													
06	X18B													
07	X20										Mot	7128000	55974	
08	X22													

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	B29										Lab	9051		
02	B124										Cab	CC36-SD	9825	
03	B128													
04	B148													
05	B203													
06	7										Can			
07	28													
08	105													
09	120										Lab		6155	
10	147										Mic	MC-47-BA	803-9059	
11	151										Cab	CG-60-SD	7943	
12	200													
13	201										Nor	70BA	TS12974-TS40	
14	1027													
15	1027										Cab	CC47-6D	803-4389	
16	1029										Nor	47BA-G	TS12267-T217	
17	1143										Lab		7550	
18	1148										Cab	CC60-50-5	8705	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	201										Sen	HBASC5	MH27895	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	25										Bed	BA72-SSW	34896	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01	103										MOT	7225040	86211-01	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
05	B111	CVB									Mot	4-7321000	2484-03	
06	B112	CVB									Mot	4-7321000	2484-02	
08	B119	CVB									Mot	4-7321000	2484-01	
09	B120	CVB									Mot	4-7321000	2484-04	
10	B005A	VAV									Fin	FL-208	8742	
11	B223	CVB									Mot	727-1000	46599	
13	197	CVB												
14	314B	CVB									Vor	VORTEX-2	009688-11	
16	026A	CVB									Mot	EXT-06-05	50479	
17	148	CVB									Mic	V6-PP-36-FX	806-0235	
18	148	CVB									Mic	V6-PP-36-FX	806-1408	
19	153	CVB									Sup		153896	
190	190S	CVB									Imp		1523	
191	190B	CVB									MIC	V5-MW-99C35PX	8057467	
192	190S	CVB									Mic	V5-MW-99C35PX	8056698	
193	190S	CVB									MIC	V5-MW-99C35PX	8056698	
194	195										tep	M-600	M-600XV-89-00005	
197	190B	CVB									Mic	V5-MW-99C35PX	8057468	
198	190V	VAV									Sen	HBASV4	0908	
20	153	VAV									Mic	806-10903	VPFX-6	
22	154	CVB									Cab	V4-MW-97-C30FX	10706	
23	156	CVB									Cab	V4-MW-97-C30FX	10708	
24	289	CVB									Can	721A	293A1	
25	295	CVB									Cab	CC-60-13A	803-5646	
26	258/260	CVB									Cab	CC-60-13A	803-5646	
27	314C	CVB									Nor	314C1	151A	
28	314C	CVB									Nor	314C2	151A	
29	A108	CVB									Mic	V45-PP-36-FX	806-9467	
30	A108	CVB									Mic	V45-PP-36-FX	406-8642	
31	248	CVB									Mic	32785	MFH-60-BAG	
32	248	CVB									Bed	803-4368		

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
33	A110	CVB									Rey	W-526	31184-172887	
34	A116	CVB									Mic	V8PP99	806-8415	
36	B117	CVB									Mot	4-732-1000	2485-05	
37	B117	CVB									Dfm	VPFX-6-SPC	50630-063	
38	B117	CVB									Sup		V2340-1-6	
252	252	CVB									Mic	V5MW99C30PX	805-0193	

Ottawa Building M54

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
10	1150	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	229	
11	1152	VAV		14		V	Y	Y	2016	FV	Nor	FG-2601		
13	1158	VAV		14		V	Y	Y	2016	FV	Wes			
14	1118	HIP	5			C	Y	Y	2016	FV	Sen	HBASC5		
15	1114	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	236	
16	115	HIP				C	Y	Y	2016	FV	Sen	HBASC5		
17	114	HIP				C	Y	Y	2016	FV	Sen	HBASC5		
18	132	HIP				C	Y	Y	2016	FV	Sen	HBASC5		
19	129	VAV		14		V	Y	Y	2016	FV	Mot	738100	24820	
20	2146B	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601		
21	2150	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	230	
22	2154	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	228	
24	2162	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	224	
25	2118	HIP	5			C	Y	Y	2016	FV	Sen	HBASC5		
27	2110	HIP	5			C	Y	Y	2016	FV	Sen	HBASC5		
28	2106	HIP				C	Y	Y	2016	FV	Wes	FG-2601	235	
29	221	VAV		14		V	Y	Y	2016	FV	Mot	7381000	24825	
30	212	HIP				C	Y	Y	2016	FV	Sen	HBASC5		
31	232	VAV		14		V	Y	Y	2016	FV	Nor	PREMEIR	141100172A	
33	231	HIP				C	Y	Y	2016	FV	Sen	HBASC5		
34	230	HIP				C	Y	Y	2016	FV	Lab	HBASC5		
35	B210	VAV		14		V	Y	Y	2016	FV	Lab	PREMEIR	140998560A	
36	B152E	HIP	5			C	Y	Y	2016	FV	Lab	HBASC5		
02	B152J	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	231	
03	B152C	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	241	
04	B152C	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	237	
05	15B	VAV		14		V	Y	Y	2016	FV	Nor			
08	1146	VAV		14		V	Y	Y	2016	FV	Wes			

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
09	1148	VAV		14		V	Y	Y	2016	FV	Wes	FG-2601	239	
37	56										Nuaire	NU-629-400	97250030805	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
01											Hep		50489-101	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
0020	1058	HIP	5	18	0.2	C	Y	Y	2014	FV	Sen	HBASC5		
0021	1058	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0022	1075	VAV		18		V	Y	Y	2014	FV	Can	15IA-3	TF0060 T3780	
0023	1083	CVB		18			Y	Y	2014	FV	Nor	47IA-F	TJ09754-T678	
0024	1091	HIP	4	18	0.2	C	Y	Y	2014	FV	Sen	HBASC4	MH27895	
0025	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0026	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0027	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0028	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0029	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0030	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0031	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0032	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0033	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0034	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0035	1100	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0036	1101	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0037	1101	VAV		18		V	Y	Y	2014	FV	Bed	I-ND-5-FRP	26326-2	
0038	1101	VAV		18		V	Y	Y	2014	FV	Bed	I-ND-5-FRP	26326-1	
0042	1108	VAV		18		V	Y	Y	2014	FV	Can	15IA	29186-2-AV-22	
0041	1108	VAV		18		V	Y	Y	2014	FV	Can	N-IND-S-FRP	26326-1	
0043	1108	HIP		18		C	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-2-AV-18	
0039	1108	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	21	
0040	1108	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-2-AV-20	
0044	1109	HIP	4	18	0.2	C	Y	Y	2014	FV	Sen	HBASC4		
0045	1119	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0046	1119	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0047	1121	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0048	1121	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
0049	1121	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0050	1123	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0051	1123	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0052	1123	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0053	1124	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0054	1124	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0055	1124	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0056	1124	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0057	1125	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0058	1125	HIP		18		C	Y	Y	2014	FV	Flo	VORTEX II		
0139	1129	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0140	1129	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0006	129	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-EU	24237-1D	
0010	129	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-EU	24237-1E	
0011	129	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-EU	24237-1C	
0007	129	VAV		18		V	Y	Y	2014	FV	Ver	VHB-4	H-3784-02	
0008	129	VAV		18		V	Y	Y	2014	FV	Ver	VHB-4	H-3784-03	
0009	129	VAV		18		V	Y	Y	2014	FV	Ver	VHB-4	H-3784-01	
0012	129	VAV		18		V	Y	Y	2014	FV	Bed	VHB-6	H-3784-04	
0013	135A	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-EU	24237-1A	
0014	135B	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-UE	24237-1B	
0015	141	VAV		18		V	Y	Y	2014	FV	Bed	N-IA-4-EU	24237-2	
0137	149			18			Y	Y	2014	FV	Sca	2100		
0138	149			18			Y	Y	2014	FV	Sca	2100		
0017	158	VAV		18		V	Y	Y	2014	FV	Can	47IA	LR40929N	
0016	158	VAV		18		V	Y	Y	2014	FV	Can	60IA	LR40929	
0018	158	VAV		18		V	Y	Y	2014	FV	Can	60IA	LR40929	
0059	2043	CVB		18			Y	Y	2014	FV	Mot	7351010	11166	
0060	2068	CVB		18			Y	Y	2014	FV	Mot	7125000	20740-01	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
0062	2089	VAV		18		V	Y	Y	2014	FV	Bed	N-IND-S-FRP	26325-1	
0063	2089	VAV		18		V	Y	Y	2014	FV	Bed	N-IND-S-FRP	26325-2	
0065	2092	VAV		18		V	Y	Y	2014	FV	Wes	FG-2471	1025	
0064	2092/94	VAV		18		V	Y	Y	2014	FV	Nor	15IA	T4087-TF3293	
0068	2100	VAV		18			Y	Y	2014	FV	Bed			
0066	2100	VAV		18		V	Y	Y	2014	FV	Bed			
0067	2100	VAV		18		V	Y	Y	2014	FV	Bed			
0069	2100	VAV		18		V	Y	Y	2014	FV	Bed			
0070	2100	VAV		18		V	Y	Y	2014	FV	Bed			
0071	2105	VAV		18		V	Y	Y	2014	FV	Mot	7311000	1205-01	
0141	2115			18			Y	Y	2014	FV	Bed	BA-4-M	28897-1	
0072	2118	CVB		18			Y	Y	2014	FV	Mot	7311000	1205-02	
0142	2125			18			Y	Y	2014	FV	Bed	BA-4-M	28897-2	
0073	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-3	
0074	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-4	
0075	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-5	
0076	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-6	
0077	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-7	
0078	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-8	
0079	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-9	
0080	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-10	
0081	2135	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-11	
0082	2137	HIP	8	18	0.45	C	Y	Y	2014	FV	Sen	HWASC8		Walk-in
0083	2137	HIP	8	18	0.45	C	Y	Y	2014	FV	Sen	HWASC8		Walk-in
0084	2143	HIP	6	18	0.45	C	Y	Y	2014	FV	Sen	HWASC6		Walk-in
0085	2143	HIP	6	18	0.45	C	Y	Y	2014	FV	Sen	HWASC6		Walk-in
0086	2143	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-19	
0144	2147	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0087	2147	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-17	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
0088	2147	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-16	
0089	2147	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-15	
0090	2147	VAV		18		V	Y	Y	2014	FV	Bed	ST-4-ME-E	29186-1-AV-14	
0091	3005	HIP	4	18	0.2	C	Y	Y	2014	FV	Sen	HBASC4	AS3005	
0092	3006	HIP	5	18	0.2	C	Y	Y	2014	FV	Sen	HBASC5		
0093	3012	VAV		18		V	Y	Y	2014	FV	Mot	7228000	1677-01	
0094	3015	CVB		18			Y	Y	2014	FV	Lab			
0095	3016	HIP	4	18	0.2	C	Y	Y	2014	FV	Sen	HBASC4		
0096	3017	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0097	3018	VAV		18		V	Y	Y	2014	FV	Lab			
0098	3018	VAV		18		V	Y	Y	2014	FV	Lab	70710	29635	
0099	3024A	VAV		18		V	Y	Y	2014	FV	Can			
0100	3024A	VAV		18		V	Y	Y	2014	FV	Can			
0101	3024A	VAV		18		V	Y	Y	2014	FV	Can			
0102	3024A	HIP	5	18	0.2	C	Y	Y	2014	FV	Sen	HBASC5		
0103	3025	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0104	3027	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0105	3031	VAV		18		V	Y	Y	2014	FV	Lab	47701-4160	36178	
0145	3039			18			Y	Y	2014	FV	Nor	15IA	TC5332-T4416	
0107	3042	VAV		18		V	Y	Y	2014	FV	Bed	BA-6-FRP-E	32700-1	
0108	3042	VAV		18		V	Y	Y	2014	FV	Bed	BA-6-FRP-E	32700-2	
0106	3042	HIP	5	18	0.45	C	Y	Y	2014	FV	Sen	HWASC5		Walk-in
0109	3047	CVB		18			Y	Y	2014	FV	Nor	20IA	TL7622-T4461	
0110	3065	CVB		18			Y	Y	2014	FV	Nor	15IA	T4087-TF3293	
0111	3070	VAV		18		V	Y	Y	2014	FV	Mot	7321000	20740-02	
0112	3070	VAV		18		V	Y	Y	2014	FV	Mot	7321000	21659-02	
0114	3070	VAV		18		V	Y	Y	2014	FV	Mot	7321000	21659-01	
0113	3070	VAV		18		V	Y	Y	2014	FV	Mot	7381000	21659-03	
0115	3073/77	VAV		18		V	Y	Y	2014	FV	Nor	20IIA	TL7622-T4461	

ID #	Room	Type	Nom Width (ft)	Design Sash H (in)	Design Duct SP (in WG)	Sash Type (V/H/C)	Occ Sensor (Y/N)	Airflow Monitor (Y/N)	Last Test Date	Last Test Type (FV/TG)	Manu-facturer	Model	Serial No.	Comments
0116	3077	VAV		18		V	Y	Y	2014	FV	Bed	BA-20-ME	30393-2	
0117	3077	VAV		18		V	Y	Y	2014	FV	Bed	BA-20-ME	30393-1	
0118	3089	VAV		18		V	Y	Y	2014	FV	Nor	201-A	T4716-TC10150	
0119	3089	VAV		18		V	Y	Y	2014	FV	Mot	7311000	1677-01	
0120	3091	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5332-T4418	
0121	3091	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5332-T4418	
0122	3095	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5332-T4420	
0123	3096	VAV		18		V	Y	Y	2014	FV	Nor	15IA WI	T4716-TC10156	
0124	3099	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5332-T4420	
0125	3101	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5248-T4392	
0126	3101	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5248-T4392	
0127	3119	VAV		18		V	Y	Y	2014	FV	Can	15IA	028277	
0128	3121	CVB		18			Y	Y	2014	FV	Nor	15IA	T4087-TF3293	
0129	3135	CVB		18			Y	Y	2014	FV	Nor	15IA	101725	
0130	3140	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5332-T4418	
0131	3148	VAV		18		V	Y	Y	2014	FV	Nor	15IA	TC5248-T4392	
0132	3149	CVB		18			Y	Y	2014	FV	Nor	15IA	TC5324-T4420	
0146	3152			18			Y	Y	2014	FV	Nor	47IA	T57528-T4464	
0133	3157	CVB		18			Y	Y	2014	FV	Nor	15IA	TC5324-T4420	
0134	3158	VAV		18		V	Y	Y	2014	FV	Lab	50000	24921	
0135	4094	HIP	6	18	0.2	C	Y	Y	2014	FV	Sen	HBASC6		
0136	4101	CVB		18			Y	Y	2014	FV	Mot	7381000	24822	
0019	44	HIP	5	18	0.2	C	Y	Y	2014	FV	Sen	HBASC5		
0147	58	HIP	5	18	0.2	C	Y	Y	2014	FV	Sen	HBASC5		
0001	96	VAV		18		V	Y	Y	2014	FV	Nor	151A-F	TB08870-T472 FH1	
0002	96	VAV		18		V	Y	Y	2014	FV	Nor	151A-F	TB08870-T472 FH2	
0005	96	VAV		18		V	Y	Y	2014	FV	Nor	47IA-F-SP	TB08870-T472 FH5	
0003	96	VAV		18		V	Y	Y	2014	FV	Nor	70IA-S-FP	TB08870-T472 FH3	
0004	96	VAV		18		V	Y	Y	2014	FV	Nor	70IA-S-FP	TB08870-T472 FH4	

NRC Fume Hood NCR

Initial Data Collection

Region:	Ontario																		Totals
Site:	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	Ottawa	
Building #	M-03	M-04	M-09	M-12	M-13	M-17	M-20	M-23	M-24	M-35	M-36	M-37	M-40	M-48	M-50	M-54	M-59	SUS-77	
	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-04-22	2020-02-14	
Inventory																			
Conventional "CON"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional - Auxiliary air "COA"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Constant Volume - air bypass "CVB"	1	0	0	17	0	0	6	0	0	0	0	0	0	0	33	0	0	12	69
Variable Air Volume "VAV"	0	0	0	49	0	0	0	0	0	0	0	0	0	0	3	18	0	78	148
High Performance "HIP"	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	11	0	48	95
Perchloric Acid Hood "PER"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Radioisotope Hood "RAD"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	**1**	**1**	**4**	**14**	**2**	**3**	**0**	**9**	**4**	**8**	**18**	**1**	**1**	**1**	**1**	**1**	**1**	**6**	**76**
Total Fume Hoods	2	1	4	116	2	3	6	9	4	8	18	1	1	1	37	30	1	144	388

ID	**2010C**
Title	**General Conditions Services (Medium Complexity**
Date	**2010-08-16**
Status	**Active**

01 Interpretation
02 Powers of Canada
03 Status of the Contractor
04 Conduct of the Work
05 Subcontracts
06 Time of the Essence
07 Excusable Delay
08 Inspection and Acceptance of the Work
09 Invoice Submission
10 Taxes
11 Payment Period
12 Interest on Overdue Accounts
13 Audit
14 Compliance with Applicable Laws
15 Liability
16 Government Property
17 Amendment
18 Assignment
19 Suspension of the Work
20 Default by the Contractor
21 Termination for Convenience
22 Right of Set-off
23 Conflict of Interest and Values and Ethics Codes for the Public Service
24 Contingency Fees
25 International Sanctions
26 Harassment in the Workplace
27 Entire Agreement

2010C 01 (2008-05-12) Interpretation

In the Contract, unless the context otherwise requires:

"Articles of Agreement" means the clauses and conditions set out in full text or incorporated by reference to form the body of the Contract; it does not include these general conditions, any supplemental general conditions, annexes, the Contractor's bid or any other document

"Canada", "Crown", "Her Majesty" or "the Government" means Her Majesty the Queen in right of Canada as represented by the National Research Council Canada and any other person duly authorized to act on behalf of the National Research Council Canada.

"Contract" means the Articles of Agreement, these general conditions, any supplemental general conditions, annexes and any other document specified or referred to as forming part of the Contract, all as amended by agreement of the Parties from time to time;

"Contracting Authority" means the person designated by that title in the Contract, or by notice to the Contractor, to act as Canada's representative to manage the Contract;

"Contractor" means the person, entity or entities named in the Contract to supply goods, services or both to Canada;

"Contract Price" means the amount stated in the Contract to be payable to the Contractor for the Work, exclusive of Goods and Services Tax and Harmonized Sales Tax;

"Government Property" means anything supplied to the Contractor by or on behalf of Canada for the purposes of performing the Contract and anything acquired by the Contractor in any manner in connection with the Work, the cost of which is paid by Canada under the Contract;

"Party" means Canada, the Contractor, or any other signatory to the Contract and "Parties" means all of them;

"Work" means all the activities, services, goods, equipment, matters and things required to be done, delivered or performed by the Contractor under the Contract.

2010C 02 (2008-05-12) Powers of Canada

All rights, remedies, powers and discretions granted or acquired by Canada under the Contract or by law are cumulative, not exclusive.

2010C 03 (2008-05-12) Status of the Contractor

The Contractor is an independent contractor engaged by Canada to perform the Work. Nothing in the Contract is intended to create a partnership, a joint venture or an agency between Canada and the other Party or Parties. The Contractor must not represent itself as an agent or representative of Canada to anyone. Neither the Contractor nor any of its personnel is engaged as an employee or agent of Canada. The Contractor is responsible for all deductions and remittances required by law in relation to its employees.

2010C 04 (2008-05-12) Conduct of the Work

1. The Contractor represents and warrants that:

   (a) it is competent to perform the Work;

   (b) it has everything necessary to perform the Work, including the resources, facilities, labour, technology, equipment, and materials; and

   (c) it has the necessary qualifications, including knowledge, skill, know-how and experience, and the ability to use them effectively to perform the Work.

2. The Contractor must:

   (a) perform the Work diligently and efficiently;

   (b) except for Government Property, supply everything necessary to perform the Work;

   (c) use, as a minimum, quality assurance procedures, inspections and controls generally used and recognized by the industry to ensure the degree of quality required by the Contract;

   (d) select and employ a sufficient number of qualified people;

   (e) perform the Work in accordance with standards of quality acceptable to Canada and in full conformity with the specifications and all the requirements of the Contract;

   (f) provide effective and efficient supervision to ensure that the quality of workmanship meets the requirements of the Contract.

3. The Contractor consents in the case of a contract that has a value in excess of $10,000.00 to the public disclosure of information – other than information described in any of paragraphs 20(1)a) to (d) of the Access to Information Act – relating to the contract.

2010C 05 (2008-05-12) Subcontracts

The Contractor may subcontract the supply of goods or services that are customarily subcontracted by the Contractor. Subcontracting does not relieve the Contractor from any of its obligations under the Contract or impose any liability upon Canada to a subcontractor. In any subcontract, the Contractor agrees to bind the subcontractor by the same conditions by which the Contractor is bound under the Contract, unless the Contracting Authority agrees otherwise.

2010C 06 (2008-05-12) Time of the Essence

It is essential that the Work be performed within or at the time stated in the Contract.

2010C 07 (2008-05-12) Excusable Delay

1. A delay in the performance by the Contractor of any obligation under the Contract that is caused by an event that:

   (a) is beyond the reasonable control of the Contractor;

   (b) could not reasonably have been foreseen;

(c) could not reasonably have been prevented by means reasonably available to the Contractor; and

(d) occurred without the fault or neglect of the Contractor,

will be considered an "Excusable Delay" if the Contractor advises the Contracting Authority of the occurrence of the delay or of the likelihood of the delay as soon as the Contractor becomes aware of it. The Contractor must also advise the Contracting Authority, within fifteen (15) working days, of all the circumstances relating to the delay and provide to the Contracting Authority for approval a clear work around plan explaining in detail the steps that the Contractor proposes to take in order to minimize the impact of the event causing the delay.

2. Any delivery date or other date that is directly affected by an Excusable Delay will be postponed for a reasonable time that will not exceed the duration of the Excusable Delay.

3. However, if an Excusable Delay has continued for thirty (30) days or more, the Contracting Authority may, by giving notice in writing to the Contractor, terminate the Contract. In such a case, the Parties agree that neither will make any claim against the other for damages, costs, expected profits or any other loss arising out of the termination or the event that contributed to the Excusable Delay. The Contractor agrees to repay immediately to Canada the portion of any advance payment that is unliquidated at the date of the termination.

4. Unless Canada has caused the delay by failing to meet an obligation under the Contract, Canada will not be responsible for any costs incurred by the Contractor or any of its subcontractors or agents as a result of an Excusable Delay.

2010C 08 (2008-05-12) Inspection and Acceptance of the Work

All the Work is subject to inspection and acceptance by Canada. Inspection and acceptance of the Work by Canada do not relieve the Contractor of its responsibility for defects or other failures to meet the requirements of the Contract. Canada will have the right to reject any work that is not in accordance with the requirements of the Contract and require its correction or replacement at the Contractor's expense.

2010C 09 (2008-05-12) Invoice Submission

1. Invoices must be submitted in the Contractor's name. The Contractor must submit invoices for each delivery or shipment; invoices must only apply to the Contract. Each invoice must indicate whether it covers partial or final delivery.

2. Invoices must show:

(a) the date, the name and address of the client, item or reference numbers, deliverable and/or description of the Work, contract number, Procurement Business Number (PBN) or GST/HST #;

(b) details of expenditures in accordance with the Basis of Payment, exclusive of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) (such as item, quantity, unit of issue, unit price, fixed time labour rates and level of effort, subcontracts, as applicable);

(c) deduction for holdback, if applicable;

(d) the extension of the totals, if applicable; and

(e) if applicable, the method of shipment together with date, case numbers and part or reference numbers, shipment charges and any other additional charges.

3. If applicable, the GST or HST must be specified on all invoices as a separate item. All items that are zero-rated, exempt or to which the GST or HST does not apply, must be identified as such on all invoices.

4. By submitting an invoice, the Contractor certifies that the invoice is consistent with the Work delivered and is in accordance with the Contract.

2010C 10 (2010-08-16) Taxes

1. Municipal Taxes
Municipal Taxes do not apply.

2. Provincial Taxes

(a) Excluding legislated exceptions, federal government departments and agencies are not required to pay any sales tax payable to the province in which the taxable goods or services are delivered. This exemption has been provided to federal government departments and agencies under the authority of one of the following:

(i) Provincial Sales Tax (PST) Exemption Licence Numbers, for the provinces of:

Prince Edward Island OP-10000-250
Manitoba 390-516-0

(ii) for Quebec, Saskatchewan, the Yukon Territory, the Northwest Territories and Nunavut, an Exemption Certification, which certifies that the goods or services purchased are not subject to the provincial/territorial sales and consumption taxes because they are purchased by the federal government with Canada funds for the use of the federal government.

(b) Currently, in Alberta, the Yukon Territory, the Northwest Territories and Nunavut, there is no general PST. However, if a PST is introduced in Alberta, the Yukon Territory, the Northwest Territories or Nunavut, the sales tax exemption certificate would be required on the purchasing document.

(c) Federal departments must pay the HST in the participating provinces of Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario and British Columbia.

(d) The Contractor is not exempt from paying PST under the above Exemption Licence Numbers or Exemption Certification. The Contractor must pay the PST on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable provincial legislation), including material incorporated into real property.

3. Changes to Taxes and Duties

If there is any change to any tax or duty payable to any level of government in Canada after the bid submission date that affects the costs of the Work to the Contractor, the Contract Price will be adjusted to reflect the increase or decrease in the cost to the Contractor. However, there will be no adjustment for any change that increases the cost of the Work to the Contractor if public notice of the change was given before bid submission date in sufficient detail to have permitted the Contractor to calculate the effect of the change on its cost. There will be no adjustment if the change takes effect after the date required by the Contract for delivery of the Work.

4. GST or HST

   The estimated GST or HST, if applicable, is included in the total estimated cost on page 1 of the Contract. The GST or HST is not included in the Contract Price but will be paid by Canada as provided in the Invoice Submission section above. The Contractor agrees to remit to Canada Revenue Agency any amounts of GST and HST paid or due.

5. Tax Withholding of 15 Percent

   Pursuant to the *Income Tax Act*, 1985, c. 1 (5th Supp.) and the *Income Tax Regulations*, Canada must withhold 15 percent of the amount to be paid to the Contractor in respect of services provided in Canada if the Contractor is a non-resident unless the Contractor obtains a valid waiver. The amount withheld will be held on account for the Contractor in respect to any tax liability which may be owed to Canada.

2010C 11 (2008-05-12) Payment Period

1. Canada's standard payment period is thirty (30) days. The payment period is measured from the date an invoice in acceptable form and content is received in accordance with the Contract or the date the Work is delivered in acceptable condition as required in the Contract, whichever is later. A payment is considered overdue on the 31st day following that date and interest will be paid automatically in accordance with the section 12.

2. If the content of the invoice and its substantiating documentation are not in accordance with the Contract or the Work is not in acceptable condition, Canada will notify the Contractor within fifteen (15) days of receipt. The 30-day payment period begins upon receipt of the revised invoice or the replacement or corrected Work. Failure by Canada to notify the Contractor within fifteen (15) days will only result in the date specified in subsection 1 to apply for the sole purpose of calculating interest on overdue accounts.

2010C 12 (2008-12-12) Interest on Overdue Accounts

1. For the purpose of this section:

   "Average Rate" means the simple arithmetic mean of the Bank Rates in effect at 4:00 p.m. Eastern Time each day during the calendar month immediately before the calendar month in which payment is made;

   "Bank Rate" means the rate of interest established from time to time by the Bank of Canada as the minimum rate at which the Bank of Canada makes short term advances to members of the Canadian Payments Association;

   "date of payment" means the date of the negotiable instrument drawn by the Receiver General for Canada to pay any amount under the Contract;

   an amount becomes "overdue" when it is unpaid on the first day following the day on which it is due and payable according to the Contract.

2. Canada will pay to the Contractor simple interest at the Average Rate plus 3 percent per year on any amount that is overdue, from the date that amount becomes overdue until the day before the date of payment, inclusive. The Contractor is not required to provide notice to Canada for interest to be payable.

3. Canada will pay interest in accordance with this section only if Canada is responsible for the delay in paying the Contractor. Canada will not pay interest on overdue advance payments.

2010C 13 (2008-05-12) Audit

The amount claimed under the Contract is subject to government audit both before and after payment is made. The Contractor must keep proper accounts and records of the cost of performing the Work and keep all documents relating to such cost for six (6) years after it receives the final payment under the Contract.

2010C 14 (2008-05-12) Compliance with Applicable Laws

1. The Contractor must comply with all laws applicable to the performance of the Contract. The Contractor must provide evidence of compliance with such laws to Canada at such times as Canada may reasonably request.

2. The Contractor must obtain and maintain at its own cost all permits, licenses, regulatory approvals and certificates required to perform the Work. If requested by the Contracting Authority, the Contractor must provide a copy of any required permit, license, regulatory approvals or certificate to Canada.

2010C 15 (2008-05-12) Liability

The Contractor is liable for any damage caused by the Contractor, its employees, subcontractors, or agents to Canada or any third party. Canada is liable for any damage caused by Canada, its employees or agents to the Contractor or any third party. The Parties agree that no limitation of liability or indemnity provision applies to the Contract unless it is specifically incorporated in full text in the Articles of Agreement. Damage includes any injury to persons (including injury resulting in death) or loss of or damage to property (including real property) caused as a result of or during the performance of the Contract.

2010C 16 (2008-05-12) Government Property

The Contractor must take reasonable and proper care of all Government Property while it is in its possession or subject to its control. The Contractor is responsible for any loss or damage resulting from its failure to do so other than loss or damage caused by ordinary wear and tear.

2010C 17 (2008-05-12) Amendment

To be effective, any amendment to the Contract must be done in writing by the Contracting Authority and the authorized representative of the Contractor.

2010C 18 (2008-05-12) Assignment

1. The Contractor must not assign the Contract without first obtaining the written consent of the Contracting Authority. Any assignment made without that consent is void and will have no effect. The assignment will be effective upon execution of an assignment agreement signed by the Parties and the assignee.

2. Assignment of the Contract does not relieve the Contractor from any obligation under the Contract and it does not impose any liability upon Canada.

2010C 19 (2008-05-12) Suspension of the Work

The Contracting Authority may at any time, by written notice, order the Contractor to suspend or stop the Work or part of the Work under the Contract. The Contractor must immediately comply with any such order in a way that minimizes the cost of doing so.

2010C 20 (2008-05-12) Default by the Contractor

1. If the Contractor is in default in carrying out any of its obligations under the Contract, the Contracting Authority may, by giving written notice to the Contractor, terminate for default the Contract or part of the Contract. The termination will take effect immediately or at the expiration of a cure period specified in the notice, if the Contractor has not cured the default to the satisfaction of the Contracting Authority within that cure period.

2. If the Contractor becomes bankrupt or insolvent, makes an assignment for the benefit of creditors, or takes the benefit of any statute relating to bankrupt or insolvent debtors, or if a receiver is appointed under a debt instrument or a receiving order is made against the Contractor, or an order is made or a resolution passed for the dissolution, liquidation or winding up of the Contractor, the Contracting Authority may, to the extent permitted by the laws of Canada, by giving written notice to the Contractor, immediately terminate for default the Contract or part of the Contract.

3. If Canada gives notice under subsection 1 or 2, the Contractor will have no claim for further payment except as provided in this section. The Contractor will be liable to Canada for all losses and damages suffered by Canada because of the default or occurrence upon which the notice was based, including any increase in the cost incurred by Canada in procuring the Work from another source. The Contractor agrees to repay immediately to Canada the portion of any advance payment that is unliquidated at the date of the termination.

2010C 21 (2008-05-12) Termination for Convenience

1. At any time before the completion of the Work, the Contracting Authority may, by giving notice in writing to the Contractor, terminate for convenience the Contract or part of the Contract. Once such a notice of termination for convenience is given, the Contractor must comply with the requirements of the termination notice. If the Contract is terminated in part only, the Contractor must proceed to complete any part of the Work that is not affected by the termination notice. The termination will take effect immediately or, as the case may be, at the time specified in the termination notice.

2. If a termination notice is given pursuant to subsection 1, the Contractor will be entitled to be paid, for costs that have been reasonably and properly incurred to perform the Contract to the extent that the Contractor has not already been paid or reimbursed by Canada. The Contractor will be paid:

   (a) on the basis of the Contract Price, for all completed work that is inspected and accepted in accordance with the Contract, whether completed before, or after the termination in accordance with the instructions contained in the termination notice;

   (b) the Cost to the Contractor plus a fair and reasonable profit for all work terminated by the termination notice before completion; and

   (c) all costs incidental to the termination of the Work incurred by the Contractor but not including the cost of severance payments or damages to employees whose services are no longer required, except wages that the Contractor is obligated by statute to pay.

3. Canada may reduce the payment in respect of any part of the Work, if upon inspection, it does not meet the requirements of the Contract.

4. The total of the amounts, to which the Contractor is entitled to be paid under this section, together with any amounts paid, due or becoming due to the Contractor must not exceed the Contract Price. The Contractor will have no claim for damages, compensation, loss of profit, allowance arising out of any termination notice given by Canada under this section except to the extent that this section expressly provides. The Contractor agrees to repay immediately to Canada the portion of any advance payment that is unliquidated at the date of the termination.

2010C 22 (2008-05-12) Right of Set-off

Without restricting any right of set-off given by law, Canada may set-off against any amount payable to the Contractor under the Contract, any amount payable to Canada by the Contractor under the Contract or under any other current contract. Canada may, when making a payment pursuant to the Contract, deduct from the amount payable to the Contractor any such amount payable to Canada by the Contractor which, by virtue of the right of set-off, may be retained by Canada.

2010C 23 (2008-05-12) Conflict of Interest and Values and Ethics Codes for the Public Service

The Contractor acknowledges that individuals who are subject to the provisions of the *Conflict of Interest Act*, 2006, c. 9, s. 2, the Conflict of Interest Code for Members of the House of Commons, the Values and Ethics Code for the Public Service or all other codes of values and ethics applicable within specific organizations cannot derive any direct benefit resulting from the Contract.

2010C 24 (2008-12-12) Contingency Fees

The Contractor certifies that it has not, directly or indirectly, paid or agreed to pay and agrees that it will not, directly or indirectly, pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person, other than an employee of the Contractor acting in the normal course of the employee's duties. In this section, "contingency fee" means any payment or other compensation that depends or is calculated based on a degree of success in soliciting, negotiating or obtaining the Contract and "person" includes any individual who is required to file a return with the registrar pursuant to section 5 of the *Lobbying Act*, 1985, c. 44 (4th Supplement).

2010C 25 (2010-08-16) International Sanctions

1. Persons in Canada, and Canadians outside of Canada, are bound by economic sanctions imposed by Canada. As a result, the Government of Canada cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to economic sanctions..

2. The Contractor must not supply to the Government of Canada any goods or services which are subject to economic sanctions.

3. The Contractor must comply with changes to the regulations imposed during the period of the Contract. The Contractor must immediately advise Canada if it is unable to perform the Work as a result of the imposition of economic sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services. If the Parties cannot agree on a work around plan, the Contract will be terminated for the convenience of Canada in accordance with section 21.

2010C 26 (2010-08-16) Harassment in the Workplace

1. The Contractor acknowledges the responsibility of Canada to ensure, for its employees, a healthy work environment, free of harassment. A copy of the Policy on the Prevention and Resolution of Harassment in the Workplace, which is also applicable to the Contractor, is available on the Treasury Board Web site.

2. The Contractor must not, either as an individual, or as a corporate or unincorporated entity, through its employees or subcontractors, harass, abuse, threaten, discriminate against or intimidate any employee, contractor or other individual employed by, or under contract with Canada. The Contractor will be advised in writing of any complaint and will have the right to respond in writing. Upon receipt of the Contractor's response, the Contracting Authority will, at its entire discretion, determine if the complaint is founded and decide on any action to be taken.

2010C 27 (2008-05-12) Entire Agreement

The Contract constitutes the entire and only agreement between the Parties and supersedes all previous negotiations, communications and other agreements, whether written or oral, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the Parties other than those contained in the Contract.

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
PR #847803
Security Classification / Classification de sécurité UNCLASSIFIED

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine	2. Branch or Directorate / Direction générale ou Direction
National Research Council (NRC-CNRC)	ASPM / SAGI
3. a) Subcontract Number / Numéro du contrat de sous-traitance Project #5833	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant For construction servic

4. Brief Description of Work / Brève description du travail
Fume hood testing services in every building in the NCR.

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	☑ No / Non	☐ Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	☑ No / Non	☐ Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	☑ No / Non	☐ Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	☐ No / Non	☑ Yes / Oui
6. c) Is this a commercial courier or delivery requirement with **no** overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale **sans** entreposage de nuit?	☑ No / Non	☐ Yes / Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada ☑	**NATO / OTAN** ☐	**Foreign / Étranger** ☐
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions Aucune restriction relative à la diffusion ☑	All NATO countries Tous les pays de l'OTAN ☐	No release restrictions Aucune restriction relative à la diffusion ☐
Not releasable À ne pas diffuser ☐		
Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐
Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A ☐	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ ☐	PROTECTED A / PROTÉGÉ A ☐
PROTECTED B / PROTÉGÉ B ☐	NATO RESTRICTED / NATO DIFFUSION RESTREINTE ☐	PROTECTED B / PROTÉGÉ B ☐
PROTECTED C / PROTÉGÉ C ☐	NATO CONFIDENTIAL / NATO CONFIDENTIEL ☐	PROTECTED C / PROTÉGÉ C ☐
CONFIDENTIAL / CONFIDENTIEL ☐	NATO SECRET / NATO SECRET ☐	CONFIDENTIAL / CONFIDENTIEL ☐
SECRET / SECRET ☐	COSMIC TOP SECRET / COSMIC TRÈS SECRET ☐	SECRET / SECRET ☐
TOP SECRET / TRÈS SECRET ☐		TOP SECRET / TRÈS SECRET ☐
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐

PART A *(continued)* / PARTIE A *(suite)*

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

☑ RELIABILITY STATUS / COTE DE FIABILITÉ	☐ CONFIDENTIAL / CONFIDENTIEL	☐ SECRET / SECRET	☐ TOP SECRET / TRÈS SECRET
☐ TOP SECRET– SIGINT / TRÈS SECRET – SIGINT	☐ NATO CONFIDENTIAL / NATO CONFIDENTIEL	☐ NATO SECRET / NATO SECRET	☐ COSMIC TOP SECRET / COSMIC TRÈS SECRET
☐ SITE ACCESS / ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : _____

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work? ☐ No / Non ☑ Yes / Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? ☐ No / Non ☑ Yes / Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

11. b) Will the supplier be required to safeguard COMSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises? ☑ No / Non ☐ Yes / Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency? ☑ No / Non ☐ Yes / Oui
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

PART C - *(continued)* / PARTIE C - *(suite)*

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ A	PROTECTED / PROTÉGÉ B	PROTECTED / PROTÉGÉ C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRES SECRET
Information / Assets / Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
PR #847803
Security Classification / Classification de sécurité UNCLASSIFIED

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Maurice Richard	Construction Project Manager	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
613--404-9726		Maurice.Richard@nrc-cnrc.gc.ca	03/10/2020

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Tori Pelletier	Analyst,Security in Contracting	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
613-998-7352		tori.pelletier@nrc-cnrc.gc.ca	03/11/2020

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☑ No / Non ☐ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date

STANDARD INSTRUCTIONS AND CONDITIONS:

(APPLICABLE TO BID SOLICITATION)

1. **Submission of Bids**

1.1 It is the Bidder's responsibility to:

(a) return a signed original of the bid solicitation, duly completed, IN THE FORMAT REQUESTED;

(b) direct its bid ONLY to the Bid Receiving email address specified;

(c) ensure that the Bidder's name, the bid solicitation reference number, and bid solicitation closing date and time are clearly visible;

(d) provide a comprehensive and sufficiently detailed bid, including all requested pricing details, that will permit a complete evaluation in accordance with the criteria set out in the bid solicitation.

Timely and correct delivery of bids to the specified bid delivery email address is the sole responsibility of the Bidder. The National Research Council Canada (NRC) will not assume or have transferred to it those responsibilities. All risks and consequences of incorrect delivery of bids are the responsibility of the Bidder.

1.2 Bids may be accepted in whole or in part. The lowest or any bid will not necessarily be accepted. In the case of error in the extension of prices, the unit price will govern. NRC may enter into contract without negotiation.

1.3 Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the terms and conditions of the resulting contract.

1.4 Bids will remain open for acceptance for a period of not less than sixty (60) days from the closing date of the bid solicitation, unless otherwise indicated by NRC in such bid solicitation.

1.5 While NRC may enter into contract without negotiation, Canada reserves the right to negotiate with bidders on any procurement.

1.6 Notwithstanding the bid validity period stipulated in this solicitation, Canada reserves the right to seek an extension from all responsive bidders, within a minimum of three (3) days prior to the end of such period. Bidders shall have the option to either accept or reject the extension.

1.7 If the extension referred to above is accepted, in writing, by all those who submitted responsive bids, then Canada shall continue immediately with the evaluation of the bids and its approval processes.

1.8 If the extension referred to above is not accepted, in writing, by all those who submitted responsive bids then Canada shall, at its sole discretion: either continue to evaluate the responsive bids of those who have accepted the extension and seek the necessary approvals; or cancel the solicitation; or cancel and reissue the solicitation.

2. Late Bids

2.1 It is NRC policy to return, unopened, bids delivered after the stipulated bid solicitation closing date and time, unless they qualify as a delayed bid as described below.