



Environment and  
Climate Change Canada

# **PNWRC AIR COOLED CONDENSER REPLACEMENT**

**AT**

**PRAIRIE AND NORTHERN WILDLIFE  
RESEARCH CENTRE (PNWRC)**

## **SPECIFICATIONS**

**REAL PROPERTY MANAGEMENT, TECHNICAL SERVICES  
115 PERIMETER RD.  
SASKATOON, SK S7N 0X4**

**PROJECT: PNWRC-004  
DATE: JANUARY 12, 2016  
ISSUED FOR TENDER**

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## **1. SUMMARY OF WORK**

1. The Contractor shall provide all labour and materials required to complete the replacement of the Air Cooled Condensind Unit at the Prairie and Northern Wildlife Research Centre – 115 Perimeter Rd. Saskatoon, SK as described in the attached plans and specifications.
2. The work on this contract includes coordination and cooperation with other contractors and building personnel working on the site.
3. Work to be performed under this Contract includes, but is not limited to, the following items covered further in the Contract Documents, items below summarize major equipment, refer to full Contract Documents for complete listing.
  - .1 Remove the existing equipment which includes:
    1. 1x 140 KW (40 Ton) Condensing Unit (located on roof)
    2. DX Cooling coil in existing Air Handeling Unit
    3. Redundant refrigerant piping associated with the existing condensing unit, patch and make good roof penetrations
  - .2 Supply, install and connect new equipment
    1. 1x 145.6 KW (41.5 Ton) Condensing Unit (575V / 3ph /60Hz), 10.93 total unit EER, 80.2 MCA, R-410a Refrigerant. Pad mounted on ground
    2. DX Cooling Coil to 142.6 KW total cooling capacity to fit existing Air Handling Unit.
    3. Associated refrigerant piping, insulation and piping supports
  - .3 Supply and install miscellaneous items
    1. Concrete Slab Pad for Condensing Unit (3962mm x 2590mm)
4. The scope of the electrical work is as follows:
  - .1 Remove the existing equipment which includes:
    1. Conduit & Wiring to existing roof top unit
    2. Obsolete wiring and electrical
  - .2 Supply, install and connect new equipment:
    1. New power wiring for new condensing unit
5. Refer to Drawings for the detailed scope of work.

## **2. TIME OF COMPLETION**

1. Commence work in accordance with notification of acceptance of tender submission and complete the work including rectification of deficiencies within twelve (16) weeks of commencement.

## **3. HOURS OF WORK**

1. Work shall be carried out Monday to Friday from 07:30hrs to 17:30hrs.
2. Jack Hammering, Craning, Shutdown, bypassing, or isolating any parts of the Air Handeling Unit or condensing unit shall be undertaken after hours, Monday through Friday from 17:30hrs to 06:00hrs and/or on weekends from 06:00hrs to 18:00hrs.

3. Lock-Out / Tag-Out (LOTO) work shall be completed off-hours Monday through Friday from 17:30hrs to 07:00hrs and and/or on weekends from 06:00hrs to 18:00hrs. All Internal & External LOTO permits will be required to commence work.
4. Live Work procedures will not be permitted on this site.
5. The Contractor shall not permit his personnel to work alone on this project when the following activities are undertaken:
  1. Work assessment determined that the potential health & safety risk is high;
  2. Work requiring entry into or work within a Confined Space;
  3. Work requiring Lock-Out / Tag-Out (LOTO);
  4. Work requiring use of fall arrest equipment;
  5. Work on scaffolding;
  6. Work requiring supplied air respirators or similar equipment;
  7. Hot Work and/or Hot Tap activities;
  8. Work involving cranes or hoisting;
  9. Work or work situations identified by the Engineer.
6. Work affecting building occupants shall be carried out after normal hours as defined in 3.1 above. Any shut down of service effecting building operations requires a minimum of 48 hours notice.

#### **4. SCHEDULING**

1. On award of contract submit a bar chart construction schedule for the work, indicating anticipated progress stages within time of completion. Minimum stages include, mobilization, shop drawing, product data MSDS sheets and samples submittal, order and delivery of major components and equipment, major approvals stages, interim and final inspection times, commissioning timeframes, final deficiency corrections, training, demobilization and manuals submission. When schedule has been reviewed and approved by the Engineer take necessary measures to complete work within scheduled times. Do not change schedule without written approvals from the Engineer.

#### **5. CONTRACT DOCUMENTS**

1. Drawings and specifications are complementary, items shown or mentioned in one and not in the other are deemed to be included in the contract work.
2. Any questions that arise in relation to the design shall be brought to the attention of the Engineer. Failure to comply with this procedure may necessitate amendments and other layout modifications as required to complete the Work, costs of which shall be solely the responsibility of the Contractor.
3. Study all documents, which describe, or are related to any operation before commencement of that operation. Report discrepancies discovered between existing conditions and documentation. Obtain ruling on required interpretation before commencing work.

4. Any changes to the scope of work are to be confirmed in writing by the Engineer and Contract value changes approved, prior to start of said work.
5. The cost of any additional work to the Owner shall be the actual cost of the work plus ten percent (10%) overhead and ten percent (10%) profit on the actual cost of the work.

## **6. CONTRACTOR'S USE OF SITE**

1. Do not unreasonably encumber site, with material or equipment.
2. Execute the work with the least possible interference or disturbance to the normal use of the exiting premises. Make arrangements with the Engineer to facilitate the work as stated.
3. Maintain existing services to the building and provide for personnel and vehicle access.
4. Maintain a proper solid or chain link security fence c/w suitable locks around work and storage areas at all times.
5. Where security is reduced by the work, provide temporary means to maintain security.
6. Contractor to supply their own site trailer (if required) phone, fax, and storage box. No storage will be provided within the building. Accommodation will be made for limited on-site storage at the discretion of the Engineer in area designated by the Engineer.
7. Maintain 1 copy of each of the following at the job site:
  - .1 Contract drawings
  - .2 Contract specifications
  - .3 Addenda to contract documents
  - .4 Copy of approved work schedule
  - .5 Reviewed/approved shop drawings
  - .6 Change orders
  - .7 Other modifications to contract
  - .8 Field test reports
  - .9 Reviewed/approved samples
  - .10 Manufacturers' installation and application instructions
  - .11 One set of record drawings and specifications for "as-built" purposes
  - .12 National Building Code of Canada 2005
  - .13 Current construction standards of workmanship listed in technical Sections
  - .14 Project Safety Plan – Including emergency contact names and directions to the nearest hospital.

## **7. CONTRACTOR PROJECT SUPERINTENDENT**

1. The Contractor shall, upon award of contract, designate a Project Superintendent. The Contractor shall provide the name, cellular phone number to the Engineer at the preconstruction meeting. The Project Superintendent shall have full responsibility for the project and shall be authorized to accept and act upon any notice or direction provided by

the Engineer. Project Superintendent shall be available on site at all times that work is being performed under this contract.

2. Supervise and direct all persons engaged in the work, including all tradesmen and suppliers. Become familiar with the requirements of each trade. Coordinate delivery and work operations. Examine the work of all trades during work operations to ensure compliance with the contract requirements. Expedite all work to maintain the contract schedule.
3. Cooperate with all other contractors working on site in parallel or related projects.
4. Attend coordination and project meetings at the direction of the Engineer.

## **8. CONTRACTOR and SUB CONTRACTORS**

1. The Contractor agrees to employ those sub-contractors proposed by him in writing as listed in the Contractor's tender submission.
2. Do not change or substitute approved contractor for sub-contractors without prior authorization from the design authority.
3. Contractor and sub-contractor personnel shall be qualified as per definitions under the Trades Qualification and Apprenticeship Acts and as required by regulatory agencies in provincial regulations.
4. Electrical work shall be carried out by qualified and licensed electrical contractors as per Provincial regulations.
5. Plumbing work shall be carried out by qualified and licensed plumbing contractors as per Provincial regulations.

## **9. WORKMANSHIP**

1. Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Engineer, if required, if work is such as to make it impractical to produce required results.
2. Do not employ any person unfit or unskilled in their required duties. The Engineer reserves the right to require the dismissal from the site, workers deemed incompetent, careless, insubordinate or otherwise objectionable.
3. The Work as covered by the tender documents is intended to comply exactly with the latest rules and regulations of the inspection authorities, and these rules are to be considered an integral part of the tender documents. In case of conflict, any ruling by the Inspection Authority shall be final. All changes and alterations to the Contractor's work required by an authorized inspector or any authority having jurisdiction shall be carried out at the expense of the Contractor.
4. Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with

the Engineer, whose decision is final.

#### **10. RECORD DRAWINGS**

1. As work progresses, maintain accurate records to show deviations from the contract drawings. Just prior to completion of work, supply to the Engineer one set of white prints with all deviations neatly inked in. Contractor to show actual layouts for underground services including elevations, all mechanical piping and ductwork and all electrical wiring diagrams, locations and sizes of electrical conduits, pull boxes and wiring, circuits etc.

#### **11. SHOP DRAWINGS**

1. Provide four (4) copies of the shop drawings as listed in the specifications and/or drawings to the Engineer prior to ordering materials. Shop drawings to illustrate details of portion of work specific to the project requirements. Information to clearly indicate the items to be reviewed. Generic drawings and faxed copies are not acceptable.
2. Allow five (5) working days for Engineer's review of each shop drawing submission.

#### **12. CODES AND STANDARDS**

1. The following codes and Standards are in place for work under this contract. The latest edition applicable at the time to be utilized.
  1. The National Building Code of Canada (NBC) 2010
  2. The National Fire Code (2010)
  3. Canadian Electric Code
  4. Provincial Plumbing Code
  5. Canada Labour Code Part II and Federal Occupational Health and Safety Policies
  6. Construction Standards and/or any other Code or bylaw of local application.
  7. The Federal Halocarbon Regulation, 2003 (SOR/2003-289)
2. Comply with applicable local bylaws, rules and regulations enforced at the location concerned.
3. Meet or exceed requirements of Contract documents, specified standards, codes and referenced documents.
4. In any case of conflict or discrepancy, the most stringent requirements shall apply

#### **13. FEES AND CERTIFICATES**

1. Submit a completed Notice of Project Form to provincial WCB (as required) by the notification requirements under the Regulations for Construction Projects made pursuant to the provincial safety authority. Provide copy to the Departmental Representative.
2. Obtain and pay for – Building Permits, Certificates, Licenses and other permits required by regulatory municipal, provincial or federal authorities to complete the work.
3. Provide inspection authorities with plans and information required for issue of acceptance

certificates.

4. Furnish inspection certificates in evidence that the work installed conforms with the requirements of the authority having jurisdiction.
5. Submit to the Electrical Inspection Authority the necessary number of working drawings and specifications for examination and approval prior to commencement of work and pay all associated fees.
  - .1 Obtain and pay for all electrical inspection fees.
  - .2 On completion of the work provide copies of the Electrical Inspection Authority inspection approval certificates.

#### **14. CONSTRUCTION SAFETY MEASURES**

1. Observe and enforce construction safety measures required by the Canada Labour Code Part II, Occupational Health and Safety, Workers' Compensation Board, and municipal statutes and authorities and site specific Health and Safety Policies and Directives
2. In the event of conflict between any provisions of above authorities, the most stringent will apply.
3. Provide and maintain guardrails, fences, barricades, lights, signs and other devices required for protection of workmen and public in accordance with the requirements of the Canada Labour Code Part II, Occupational Health and Safety, provincial WCB and Safety Act and Regulations for Construction Projects and Local by-laws. All signs shall be bilingual or CSA universal pictograms.
4. Ensure the safety of building personnel at all times when performing work.
5. Refer to Specifications Section 01 35 30 for additional requirements

#### **15. FIRE SAFETY REQUIREMENTS**

1. Comply with the National Building Code of Canada (2010) for fire safety in construction and the National Fire Code of Canada (201) for fire prevention, fire fighting and life safety in building in use.
2. Refer to Section 01 35 30 of this document for further information on Health and Safety

#### **16. WORKPLACE SAFETY AND INSURANCE BOARD**

1. Prior to commencing the work, throughout the total performance of the work when requesting payments and prior to receiving final payment, the Contractor shall provide evidence of good standing with the provincial WCB.

#### **17. UTILITIES**

1. Water supply is available on site and will be provided for construction usage at no cost.



Facility Supervisor reserves the right to limit volume of water utilized.

2. Existing electrical services to a maximum of 15 kVA required for the work may be used by the Contractor without charge. Ensure capacity is adequate prior to connecting and imposing additional loads. Connect and disconnect at own expense and responsibility.

## **18. PROTECTION**

1. Protect finished work against damage until take-over.
2. Protect the work and all surrounding equipment, landscape, structures, floors, ceilings, walls, etc., from damage.
2. Make good, at no cost to the Owner, any damage caused.
3. Protect any services, which are uncovered during work.
4. Protect all areas adjacent to the construction areas from dust and debris produced during construction. Use hoarding, solid walls, drop cloths, sealed dust screens and tarps and clean up and vacuum up all debris daily.

## **19. PRODUCT HANDLING AND STORAGE**

1. Deliver materials in original and unopened containers or wrappings with Manufacturers' seals and labels intact and legible.
2. Deliver materials in sufficient quantity to allow continuity of the work. Do not encumber site with unnecessary materials.
3. All unused materials at the end of any working day shall be properly protected from damage.
4. All materials, equipment, etc. to be handled and stored as not to interfere with the operation of the building.
5. All material and equipment to be new unless specified otherwise.
6. Contractors who use controlled products must ensure that their workers are properly trained in the safe use and handling of such products in compliance with the Workplace Hazardous Materials Information System (WHMIS).
7. Comply with all requirements with respect to Controlled products labeling and Material Safety Data Sheets (MSDSs) according to the requirements of WHMIS and the Hazardous Products Act.

## **20. PRODUCT AVAILABILITY**

1. Upon award of contract immediately review product delivery requirements and advise the design authority of any foreseeable delays.

2. In the event of failure to notify the Engineer at commencement of the work, the Departmental Representative reserves the right to require the supply of substitute products of equivalent quality at no increase in contract price to ensure adherence to project schedule.

## **21. MATERIALS STANDARDS**

1. Materials shall be new and work shall conform to the minimum applicable standards of the Canadian General Standards Board, the Canadian Standards Association, the National Building Code of Canada and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirements shall apply.
2. Products (materials, equipment and articles) incorporated in work shall be new, not damaged or defective and of best quality compatible with specifications for purpose intended. If requested by the design authorities, furnish evidence as type, source, and quality of product.
3. Defective products will be rejected, regardless of previous inspections. Inspection does not relieve responsibility but is a precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
4. Should any dispute arise as to the quality of fitness of products, the decision shall rest with the Engineer based upon requirements of Contract Documents. The Engineer's decision shall be final.
5. Ensure that materials, equipment, services and labour are brought to site in sufficient quantity and in accordance with requirements of the work schedule.
6. Use materials/products containing highest percentage of recycled and recovered materials practicable – consistent with maintaining cost effective satisfactory levels of completion. Adhere to waste reduction requirements for reuse or recycling of waste materials, thus diverting materials from landfill

## **22. MATERIALS OTHER THAN SPECIFIED**

1. Secure in writing, permission from the engineer to use any materials other than those specified.
2. The listed suppliers/manufacturers are acceptable for their ability to meet the general design intent, quality and performance characteristics of the specified product. The listed equipment/materials does not endorse the acceptability of all products available from the listed manufacturers/suppliers.
3. It remains the responsibility of the contractor to ensure the products supplied are equal to the specified products in every aspect, operate as intended, and meet the performance specifications and physical dimensions of the specified product.
4. The contractor shall be fully responsible for any additional materials, to accommodate the use of equipment from the acceptable manufacturer and suppliers list.

### **23. HAZARDOUS MATERIALS**

1. Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials: and regarding labeling and the provision of Material Safety Data Sheets (MSDS) acceptable to Human Resources Development Canada, Labour Program.

### **24. REMOVED MATERIALS**

1. Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from the site.
2. DI Resin Bed Tanks are the property of DI/RO Maintenance company (Filterco Water Treatment Ltd.). These will be carefully disconnected, set aside and protected so that they can be returned to the owner.

### **25. PROJECT CLEANLINESS**

1. Remove waste materials and debris from the site at the end of each day. Leave the work area unencumbered upon completion of each work shift. Store materials and equipment.
2. Ensure site is clean, orderly and neat at all times during the work shift. Provide additional cleaning as requested by the design authority, facility supervisor.
3. At the end of the project, remove dirt, dust and other disfigurations from all surfaces affected by the project including, but not limited to ceilings, walls, floors, fixtures and lights. Clean by dusting, damp wiping, washing, waxing and polishing to the satisfaction of the design authority, facility supervisor.
4. Upon completion, remove scaffolding, temporary protections and surplus materials. Make good any defects noted at this stage.
5. Clean areas affected under contract, to a condition at least equal to that previously existing and to satisfaction of the design authority, facility supervisor.
6. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

### **26. WASTE MANAGEMENT**

1. Comply with the Environmental Protection Act and the Provincial Waste Management Act for waste management programs on construction and demolition projects.

### **27. EXISTING SERVICES**

1. Where work involves breaking into or connecting to existing services, Carry out work at times directed by the Engineer. Connection to existing services shall be after hours and/or on weekends.

2. Before commencing Work, establish location and extent of service lines in area of Work and notify the Engineer of findings.
3. Submit schedule to and obtain approval from the Engineer for any shutdown or closure of active service or Facility. Adhere to approved schedule and provide notice to affected parties. Do not alter schedule without prior written consent of the Engineer.
4. Give the Engineer 48 hours notice related to each necessary interruption of any mechanical or electrical service throughout the course of the work. Obtain written authorization from the Engineer prior to any interruption. Keep duration of those interruptions to a minimum.
5. Where unknown services are encountered, immediately advise Engineer and confirm findings in writing.

## **28. CUTTING, PATCHING AND MAKING GOOD**

1. Cut existing surfaces as required to accommodate new work. Openings shall be neatly cut and dimensioned to fit electrical conduits, mechanical pipes and/or ductwork passing through the surfaces. Obtain the Engineer's approval before cutting into structure. Cutting torches shall not be permitted.
2. Patch and make good cut on both sides of surfaces, damaged or disturbed to match or better existing conditions to the satisfaction of the Engineer.  
Note: The Contractor shall patch and make good existing openings when Contractor utilizes the existing openings for his work.
3. Fill voids left around all electrical conduits, mechanical pipes and/or ductwork with appropriate fire-proofing material to maintain fire stop integrity. Finish patching with finishing compounds to the satisfaction of the Engineer.

## **29. DEMOLITION**

1. Except if expressly stated otherwise, materials indicated for removal, become the Contractor's property and shall be promptly taken from the site.

## **30. EQUIPMENT**

1. Provide and maintain equipment such as temporary stairs, ladders, ramps, scaffolds, swing stages, runways, chutes and the like, as required for execution of work
2. Provide and maintain conveying equipment such as cranes, hoists, derricks and the like, as required for execution of work.
3. Assume complete responsibility for construction strength, placing, anchoring and operation of derricks, cranes, hoists and other mechanical contrivances used for work; and ensure that loads carried thereon can be safely supported and be free from accidents to all persons.
4. Comply with all governing safety regulations in force at the time of construction.

5. Remove immediately such equipment when not required for work.
6. Provide and maintain, on site, suitable fire extinguishers in sufficient quantities, as required by the Safety Code.

### **31. LOADING**

1. Take precautions to prevent the overloading of any part of the structure during the progress of the work. Make good, at no expense to Owner, any damage resulting from such overloading.

### **32. HOISTING**

1. All crane operations are restricted to the following:
  - .1 All craning of materials and equipment must be done outside normal building operating hours, ensure interior areas below are kept unoccupied.

### **33. POWDER ACTUATED GUNS**

1. Do not employ powder-actuated guns using explosives, unless expressly permitted by the Engineer. If permitted, comply with requirements of CAN3-Z166.2-M85 (Use and Handling of Powder Actuated Tools).

### **34. TAXES**

1. Pay all taxes properly levied by law (including Federal, Provincial and Municipal)
2. The Provincial Sales Tax (PST) is NOT to be considered an applicable tax for the purposes of this bid. The bidder shall therefore include separately any amount in his bid price for the said PST. In the event the PST does apply, the successful Contractor will indicate on each application for payment as a separate amount the appropriate PST the Owner is legally obliged to pay. The Contractor's PST registration number must be shown on all invoices. This amount will be paid to the Contractor in addition to the amount certified for payment under the contract and will therefore not affect the contract price.

### **35. SIGNS – ADVERTISING**

1. No advertising and/or posting of company signs shall be permitted.
2. Provide common-use signs as related to traffic control, information, instruction, health and safety, use of equipment, public safety devices, in both official languages or by the use of commonly understood graphic symbols to the Engineer's approval.

### **36. SECURITY CLEARANCES**

1. All personnel employed on this project shall be subject to a security check. Obtain the requisite clearance as instructed for each individual required to enter the premises.

### **37. BUILDING SMOKING ENVIRONMENT**

1. Smoking is prohibited in the building and on the roofs. Smoking is prohibited within a 6 metre radius of doors, windows and air intakes. Obey smoking restrictions on building property as directed by the Engineer.

### **38. GUARANTEE**

1. Provide written one (1) year guarantee for all materials and labour provided as part of this Contract. Effective start date shall be date of final completion.
2. The contractor, at own expense, shall correct any defects in the work due to faulty products and/or workmanship appearing within the extended guarantee/warranty periods set out in the individual sections from date of final completion.

### **39. TRAINING AND DEMONSTRATION**

1. Upon completion of the mechanical, electrical and controls installations provide qualified personnel to train and demonstrate the installations to the site's operations and maintenance personnel.
2. Contractor to review sources of power for newly installed equipment and demonstrate the start/stop and control functions of the installed equipment. Training and demonstration to be for a duration of four (4) hours. Training date and time to be coordinated with and approved by the Engineer.

### **40. EQUIVALENT EQUIPMENT**

1. Where equivalent equipment has been submitted without specifics, it is the contractor's responsibility to provide detailed specifications highlighting differences to the specified unit prior to requesting for acceptance as equal. Requests without inclusion of sufficient details will automatically be rejected. Provide differences and clear quantifiable characteristics why, how and where the unit meets performance and other requirements. Requests for substitution must be made to the Engineer.
2. Equipment specified serves to set minimum standard. Substituted equipment shall meet performance requirements and physical limitations, including fitting within space constraints.

### **41. OPERATIONS AND MAINTENANCE MANUALS**

1. Provide two (2) sets of operations and maintenance data detailed in 01 78 00. Data to include detailed technical information, documents and records describing operation and maintenance of individual components.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders [and scaffolding], independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

### 1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Departmental Representative will assign sanitary facilities for use by Contractor's personnel. Keep facilities clean.
- .5 Closures: protect work temporarily until permanent enclosures are completed.

### 1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to occupants, and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

### 1.4 EXISTING SERVICES

- .1 Notify, Departmental Representative utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative [48] hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

### 1.5 SPECIAL REQUIREMENTS

- .1 Carry out noise generating Work Monday to Friday from 18:00 to 07:00 hours and on Saturdays.
- .2 Submit schedule in accordance with Section 01 11 55 - Construction Progress Schedule - Bar (GANTT) Chart.
- .4 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .5 Keep within limits of work and avenues of ingress and egress.

- .6 Deliver materials outside of peak traffic hours 17:00 to 07:00 and 13:00 to 15:00 unless otherwise approved by Departmental Representative.
- .7 Prior to cutting or drilling horizontal or vertical surfaces including concrete, concrete block or other structural substrate, determine location of reinforcing, service lines, pipes, conduits or other items by x-ray, ground penetrating radar or other appropriate method. Submit findings to Departmental Representative prior to cutting or drilling.

## 1.6 SECURITY

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .2 Security clearances:
  - .1 Obtain requisite clearance, as instructed, for each individual required to enter premises.
  - .2 Personnel will be checked daily at start of work shift and provided with pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.

## 1.7 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. Smoking is not permitted within 6m of a door, window or fresh air intake.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

- .1 Not Used.

**END OF SECTION**



## **PART 1 - GENERAL**

- 1.1 Section Includes**
- .1 Shop drawings and product data.
  - .2 Samples.
  - .3 Certificates and transcripts.
- 1.3 Related Sections**
- .1 Section 01 33 00 - Submittal Procedures.
  - .2 Section 01 78 00 - Closeout Submittals.
- 1.4 References**
- .1 Canadian Construction Documents Committee (CCDC)
  - .2 CCDC 2-[94], Stipulated Price Contract.
- 1.5 Administrative**
- .1 Submit to Engineer submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
  - .2 Work affected by submittal shall not proceed until review is complete.
  - .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
  - .4 Where items or information is not produced in SI Metric units converted values are acceptable.
  - .5 Review submittals prior to submission to Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.
  - .6 Notify Engineer, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
  - .7 Verify field measurements and affected adjacent Work are coordinated.
  - .8 Contractor's responsibility for errors and omissions in submission is not relieved by Engineer's review of submittals.
  - .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Engineer review.

**1.6 Shop Drawings  
and Product Data**

- .10 Keep one reviewed copy of each submission on site.
- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3 Allow 5 business days for Engineer's review of each submission.
- .4 Adjustments made on shop drawings by Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.
- .5 Make changes in shop drawings as Engineer may require, consistent with Contract Documents. When resubmitting, notify Engineer in writing of any revisions other than those requested.
- .6 Accompany submissions with transmittal letter, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .7 Submissions shall include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
    - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
    - .5 Details of appropriate portions of Work as applicable:
      - .1 Fabrication.
      - .2 Layout, showing dimensions, including identified field dimensions, and clearances.

- .3 Setting or erection details.
- .4 Capacities.
- .5 Performance characteristics.
- .6 Standards.
- .7 Operating weight.
- .8 Wiring diagrams.
- .9 Single line and schematic diagrams.
- .10 Relationship to adjacent work.

- .8 After Engineer's review, distribute copies.
- .9 Submit (4) prints and an electronic copy of shop drawings for each requirement requested in specification Sections and as consultant may reasonably request.
- .11 Submit (4) copies and an electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Engineer where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Delete information not applicable to project.
- .13 Supplement standard information to provide details applicable to project.
- .14 If upon review by Engineer, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

### **1.7 Samples**

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Engineer's business address.
- .3 Notify Engineer in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Engineer are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Engineer prior to proceeding with Work.
- .6 Make changes in samples which Engineer may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

**1.8 Mock-ups**

.1 Not Used.

**1.9 Progress Photographs**

.1 Submit progress photographs in accordance with Section 01 33 00 - Submittal Procedures.

**1.10 Certificates and Transcripts**

.1 Immediately after award of Contract, submit Workers' Compensation Board status.

**END OF SECTION**

## **1. SUBMITTALS**

- 1.1 Make Submittals in accordance with Section 01 11 55 "General Instructions".
- 1.2 Submit a site-specific Health and Safety Plan, within 7 days after Notice to Proceed and prior to commencement of Work. The Health and Safety Plan must include:
  - 1.2.0 Site-specific safety hazard assessment.
  - 1.2.1 Safety and health risk or hazard analysis for site risks and operation.
- 1.3 Submit Construction Safety Checklists after completion.
- 1.4 Submit copies of reports or directions issued by Federal and Provincial health and safety inspectors.
- 1.5 Submit copies of incident and accident reports.
- 1.6 Submit to Engineer with Material Safety Data Sheets (MSDS).
- 1.7 Personal training requirements including as follows:
  - 1.7.1 Names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.
- 1.8 The Engineer will review the Contractor's site-specific Health and Safety Plan and provide comments to the Contractor within 7 days after receipt of the plan. Revise the plan as appropriate and resubmit plan to the Engineer within 3 days after receipt of comments from the Engineer.
- 1.9 Medical Surveillance: Within 7 days after date of the Notice to Proceed and prior to mobilization to the site, submit certification of medical surveillance for site personnel, and submit additional certifications as personnel are sent to the site.
- 1.10 On-site Contingency and Emergency Response Plan: Address the standard operating procedures to be implemented during emergency situations.

## **2. FILING OF NOTICE**

- 2.1 File Notice with Provincial authorities prior to commencement of Work.

## **3. SAFETY ASSESSMENT**

- 3.1 Perform a site-specific safety hazard assessment related to the project.

## **4. MEETINGS**

- 1.1. Pre-construction meetings: The Contractor shall attend a Pre-Construction Meeting.

## **5. REGULATORY REQUIREMENTS**

- 5.1 The Contractor shall comply with the specified standards and regulations to ensure safe operations. The latest editions are applicable.
- 5.5.1. Canada Labour Code Part II
  - 5.5.2. Canada Occupational Safety and Health Regulations
  - 5.5.3. National Building Code Part 8 – Safety Measures at Construction & Demolition Sites
  - 5.5.4. National Fire Code Part 4 – Flammable and Combustible Liquids
  - 5.5.5. National Fire Code Part 5 – Hazardous Process and Operations
  - 5.5.6. Provincial Health and Safety Act and Regulations including;

## **6. CONTRACTOR RESPONSIBILITY**

- 6.1 The Contractor shall be responsible for the Health and Safety of persons on site, safety of property on site and for the protection of persons adjacent to the site and environment to the extent that they may be affected by the conduct of Work.
- 6.2 The Contractor shall comply with and enforce compliance by their employees with the safety requirements of the Contract Documents, applicable federal, provincial, local statutes, regulations, ordinances, and site-specific Health and Safety Plan.  
(i.e. Occupational Health and Safety Acts and Regulations for Construction Projects, Canada Labour Code Part II)

## **7. CONTRACTOR ACCIDENT AND INCIDENT REPORT**

- 7.1 The Contractor shall advise the Engineer of any accident, injury, near-miss incident, fire, explosion or chemical spill occurring at the Work site and any visit to the site by a governmental enforcement official.

## **8. UNFORSEEN HAZARDS**

- 8.1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, the Contractor shall immediately stop work and advise the Engineer verbally and in writing.

## **9. WORK STOPPAGE**

- 9.1 The Engineer and/or designated Health and Safety personnel may stop work for health and safety considerations.

## **10. CORRECTION OF NON-COMPLIANCE**

- 10.1 The Contractor shall immediately address health and safety non-compliance issues identified by the Engineer and/or other designated Health and Safety personnel.  
The Engineer may stop Work if non-compliance of health and safety regulations is not corrected by the Contractor.

## **11. DISCIPLINARY ACTIONS**

- 11.1 The Contractor's disregard and/or lack of compliance to health and safety measures, procedures and policies shall lead to disciplinary action by the Engineer.

## **12. SITE HEALTH AND SAFETY POLICIES AND DIRECTIVES**

- 12.1 The Contractor shall comply and follow all prescribed site Health and Safety Policies and Directives including but not limited to the following;

**12.1.1 Worker Profile Sheet:** The Contractor shall submit to the Engineer a completed Worker Profile Sheet c/w all attachments including copies of licenses, certificates and permits for supporting qualifications to perform required work for a given project for each individual worker requiring access to the site. The completed Worker Profile Sheets are required for each individual worker prior to working on site.

**12.1.2 Hot Work Permit:** The Contractor shall submit a completed Hot Work Permit to the Engineer for review and approval. The Engineer's approval is required prior to initiating hot work.

**12.1.3 Hot Tap Permit:** The Contractor shall submit a completed Hot Tap Permit to the Engineer for review and approval. Approval by the Engineer is required prior to initiating hot tap work.

**12.1.4 Lock Out and Tag Out (LOTO) – Isolation Procedures:** The Contractor shall submit a completed LOTO Isolation Form (Zero Energy) to the Engineer for review and approval for all work requiring LOTO. The Engineer's approval of isolation form is required prior to initiating LOTO work.

**12.1.5 Live Work Procedure:** The Contractor shall submit a completed Live Work Procedure Form to the Engineer for review and approval for all work requiring Live Work procedures. The Engineer's approval of the Live Work Form is required prior to initiating Live Work.

**12.1.6 Emergency and Fire Evacuation Route:** The Contractor shall obtain training on procedures of evacuating the site under emergency and/or fire situations. Contractor training and sign-off is required prior to initiating site work.

**12.1.7 Trades Qualifications and Apprenticeship Act:** The Contractor shall sign-off confirming that the Trades Qualifications and Apprenticeship Act shall be observed and followed. Contractor sign-off is required prior to initiating site work.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 CONSTRUCTION & DEMOLITION WASTE

- .1 Carefully deconstruct and source separate materials/equipment and divert, from D&C waste destined for landfill to maximum extent possible. Target for this project is 75% diversion from landfill. Reuse, recycle, compost, anaerobic digest or sell material for reuse except where indicated otherwise. On site sales are not permitted.
- .2 Source separate waste and maintain waste audits in accordance with the Environmental Protection Act,
  - .1 Provide facilities for collection, handling and storage of source separated wastes.
  - .2 Source separate the following waste:
    - .1 Brick and portland cement concrete.
    - .2 Corrugated cardboard.
    - .3 Wood, not including painted or treated wood or laminated wood.
    - .4 Gypsum board, unpainted.
    - .5 Steel.
    - .6 Items indicated in a Deconstruction and Waste Products Workplan Summary.
- .3 Submit a waste reduction workplan indicating the materials and quantities of material that will be recycled and diverted from landfill.
  - .1 Indicate how material being removed from the site will be reused, recycled, composted or anaerobically digested in a Deconstruction and Waste Products Workplan Summary.
- .4 Submit proof that all waste is being disposed of at a licensed land fill site or waste transfer site. A copy of the disposal/waste transfer site's license and a letter verifying that said landfill site will accept the waste must be supplied to Departmental Representative prior to removal of waste from the demolition site.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

- .1 Not Used.

**END OF SECTION**



## **PART 1 - GENERAL**

- |                      |    |   |
|----------------------|----|---|
| 1.1 Section Includes | .1 | As-built, samples, and specifications.  |
|                      | .2 | Equipment and systems.  |
|                      | .3 | Product data, materials and finishes, and related information.  |
|                      | .4 | Operation and maintenance data.   |
|                      | .5 | Spare parts, special tools and maintenance materials.   |
|                      | .6 | Warranties and bonds.   |
|                      | .7 | Final site survey.  |
| 1.2 Precedence       | .1 | Not Used  |
| 1.3 Related Sections | .1 | Section 01 11 55 - General Instructions.  |
|                      | .2 | Section 01 91 00 - Commissioning  |
| 1.4 Submission       | .1 | Prepare instructions and data using personnel experienced in maintenance and operation of described products.   |
|                      | .2 | Copy will be returned after final inspection, with Engineer's comments.   |
|                      | .3 | Revise content of documents as required prior to final submittal.   |
|                      | .4 | Two weeks prior to Substantial Performance of the Work, submit to the Engineer, two final copies of operating and maintenance manuals in English.                       |
|                      | .5 | Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work. |
|                      | .6 | If requested, furnish evidence as to type, source and quality of products provided.   |
|                      | .7 | Defective products will be rejected, regardless of previous inspections. Replace products at own expense.   |
|                      | .8 | Pay costs of transportation.  |
| 1.5 Format           | .1 | Organize data in the form of an instructional manual.   |
|                      | .2 | Binders: vinyl, hard covered, 3 'D' ring, loose leaf with spine and face pockets.   |
|                      | .3 | When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.  |
|                      | .4 | Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.                       |
|                      | .5 | Arrange content by systems, under Section numbers and sequence of Table of Contents.  |
|                      | .6 | Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.                                 |
|                      | .7 | Text: Manufacturer's printed data, or typewritten data. Data in tables are to be entered in MS-Excel format. Include PDF's  |

- and spreadsheet on CD/DVD.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
  - .9 Provide 1:1 scaled CAD files in DWG-format and in PDF-format on CD/DVD.
- 1.6 Contents - Each Volume
- .1 Table of Contents: provide title of project;
    - .1 date of submission; names,
    - .2 addresses, and telephone numbers of Consultant and Contractor with name of responsible parties;
    - .3 schedule of products and systems, indexed to content of volume.
  - .2 For each product or system:
    - .1 list names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
  - .3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
  - .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
  - .5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- 1.7 As-builts and Samples
- .1 In addition to requirements in General Instructions, maintain at the site for Engineer one record copy of:
    - .1 Contract Drawings.
    - .2 Specifications.
    - .3 Addenda.
    - .4 Change Orders and other modifications to the Contract.
    - .5 Reviewed shop drawings, product data, and samples.
    - .6 Field test records.
    - .7 Inspection certificates.
    - .8 Manufacturer's certificates.
  - .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
  - .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
  - .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
  - .5 Keep record documents and samples available for inspection by Engineer.
- 1.8 Recording Actual Site
- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Engineer.

- Conditions
  - .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
  - .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
  - .4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
    - .1 Measured depths of elements of foundation in relation to finish first floor datum.
    - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
    - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
    - .4 Field changes of dimension and detail.
    - .5 Changes made by change orders.
    - .6 Details not on original Contract Drawings.
    - .7 References to related shop drawings and modifications.
  - .5 Specifications: legibly mark each item to record actual construction, including:
    - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
    - .2 Changes made by Addenda and change orders.
  - .6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
- 1.9 Final Equipment Layout
  - .1 Submit final as-built equipment layout, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.
- 1.10 Equipment and Systems
  - .1 Each Item of Equipment and Each System: include description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
  - .2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
  - .3 Include installed colour coded wiring diagrams.
  - .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
  - .5 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

- .6 Provide servicing and lubrication schedule, and list of lubricants required.
- .7 Include manufacturer's printed operation and maintenance instructions.
- .8 Include sequence of operation by controls manufacturer.
- .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide Contractor's coordination drawings, with installed colour coded piping diagrams.
- .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .14 Include test and balancing reports as specified in Section 22 20 10 - Testing, Adjusting and Balancing – Pure Water System. Company performing TAB will sign off on commissioning sheets and performance verifications forms.
- .15 Additional requirements: As specified in individual specification sections.

#### 1.11 Materials and Finishes

- .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional Requirements: as specified in individual specifications sections.

#### 1.12 Spare Parts

- .1 Provide spare parts, in quantities specified in individual specification sections.
- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to site; place and store.
- .4 Receive and catalogue all items. Submit inventory listing to Engineer. Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

#### 1.13 Maintenance Materials

- .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.
- .2 Provide items of same manufacture and quality as items in Work.

- .3 Deliver to site; place and store.
  - .4 Receive and catalogue all items. Submit inventory listing to Engineer. Include approved listings in Maintenance Manual.
  - .5 Obtain receipt for delivered products and submit prior to final payment.
- 1.14 Special Tools
- .1 Provide special tools, in quantities specified in individual specification section.
  - .2 Provide items with tags identifying their associated function and equipment.
  - .3 Deliver to site; place and store.
  - .4 Receive and catalogue all items. Submit inventory listing to Engineer. Include approved listings in Maintenance Manual.
- 1.15 Storage, Handling and Protection
- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
  - .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
  - .3 Store components subject to damage from weather in weatherproof enclosures.
  - .4 Store paints and freezable materials in a heated and ventilated room.
  - .5 Remove and replace damaged products at own expense and to satisfaction of Engineer.
- 1.16 Warranties and Bonds
- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
  - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
  - .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
  - .5 Verify that documents are in proper form, contain full information, and are notarized.
  - .6 Co-execute submittals when required.
  - .7 Retain warranties and bonds until time specified for submittal.

**END OF SECTION**

## **PART 1 - GENERAL**

### **1.1 INCLUDED WORK**

1. Develop appropriate verification forms and submit to Engineer for approval prior to use.
2. Commissioning Forms to be completed for equipment, system and integrated system.
3. Report Forms and Schematics
4. Training of O&M Personnel

### **1.2 RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures
- .2 Section 01 35 30 - Health and Safety Requirements
- .3 Section 01 78 00 - Closeout Submittals

### **1.2 INSTALLATION/START-UP CHECK LIST**

- .1 Include the following data:
  - .1 Product manufacturer's installation instructions and recommended checks.
  - .2 Special procedures as specified in relevant technical sections.
  - .3 Items considered good installation and engineering industry practices deemed appropriate for proper and efficient operation.
- .2 Equipment manufacturer's installation/start-up check lists are acceptable for use. As deemed necessary Engineer supplemental additional data lists will be required for specific project conditions.
- .3 Use check lists for equipment installation. Document check list verifying checks have been made, indicate deficiencies and corrective action taken.
- .4 Installer to sign check lists upon completion, certifying stated checks and inspections have been performed. Return completed check lists to Engineer. Check lists will be required during Commissioning and will be included in Maintenance Manual at completion of project.
- .5 Use of check lists will not be considered part of commissioning process but will be stringently used for equipment pre-start and start-up procedures.

### **1.4 PERFORMANCE VERIFICATION**

- .1 PV forms to be used for checks, running dynamic tests and adjustments carried out on equipment and systems to ensure correct operation, efficiently and function independently and interactively with other systems as intended with project requirements.
- .2 PV report forms include those developed by Contractor records measured data and readings taken during functional testing and Performance Verification procedures.
- .3 Prior to PV of integrated system, complete PV forms of related systems and obtain Engineer's approval.

### **1.5 COMMISSIONING FORMS**

- .1 Use Commissioning Forms to verify installation and record performance when starting equipment and systems.
- .2 Strategy for Use:
  - .1 Develop Commissioning forms with Specification data included.
  - .2 Contractor will provide required shop drawings information and verify correct

installation and operation of items indicated on these forms.

- .3 Confirm operation as per design criteria and intent.
- .4 Identify variances between design and operation and reasons for variances.
- .5 Verify operation in specified normal and emergency modes and under specified load conditions.
- .6 Record analytical and substantiating data.
- .7 Verify reported results.
- .8 Form to bear signatures of recording technician and reviewed and signed off by Engineer.
- .9 Submit immediately after tests are performed.
- .10 Reported results in true measured SI unit values. Contact the Engineer for clarification of acceptable units.
- .11 Provide Engineer with originals of completed forms.
- .12 Maintain copy on site during start-up, testing and commissioning period.
- .13 Forms to be both hard copy and electronic format with typed written results in Maintenance Manual.

## **1.6 SUBMITTALS**

- .1 Commissioning of system will be carried out by firm responsible for TAB and preparation of Maintenance Manual.
- .2 Prior to start of Work, submit name of organization proposed to perform services. Designate who has managerial responsibilities for coordination of entire testing, adjusting and balancing.
- .3 Submit documentation to confirm organization compliance with quality assurance provision.
- .4 Submit 3 preliminary specimen copies of each of report forms proposed for use.
- .5 Fifteen days prior to Substantial Performance, submit 3 copies of final reports on applicable forms.
- .6 Submit reports of testing, adjusting, and balancing postponed due to seasonal, climatic, occupancy, or other reasons beyond Contractor's control, promptly after execution of those services.

## **1.7 PROCEDURES - GENERAL**

- .1 Comply with procedural standards of certifying association under whose standard services will be performed.
- .2 Report to Engineer any deficiencies or defects noted during performance of services. Include steps taken to bring performance of services with required services.

## **1.8 FINAL REPORTS**

- .1 Organization having managerial responsibility shall make reports.
- .2 Ensure each form bears signature of recorder, and that of supervisor of reporting organization.
- .3 Identify each instrument used, and latest date of calibration of each.

## **1.9 CONTRACTOR RESPONSIBILITIES**

- .1 Prepare each system for testing and balancing.
- .2 Cooperate with testing organization and provide access to equipment and systems.
- .3 Provide personnel and operate systems at designated times, and under conditions

- required for proper testing, adjusting, and balancing.
- .4 Notify testing organization 7 days prior to time project will be ready for testing, adjusting, and balancing.

### **1.10 PREPARATION**

- .1 Provide instruments required for testing, adjusting, and balancing operations.
- .2 Make instruments available to Engineer to facilitate spot checks during testing.
- .3 Retain possession of instruments and remove at completion of services.
- .4 Verify systems installation is complete and in continuous operation.
- .5 Verify equipment such as computers, laboratory and electronic equipment are in full operation.

### **1.11 EXECUTION**

- .1 Test equipment, balance distribution systems, and adjust devices for de-ionized and reverse-osmosis water systems.
- .2 Balance DI-water flows both at full building demand and at zero building demand. Systems to be operated at full capacity under various modes to determine if they function correctly and consistently at peak efficiency.

### **1.12 SCHEDULE OF SYSTEMS REQUIRING TESTING, ADJUSTING AND BALANCING SERVICES**

- .1 Co-ordinate with Building Manager for convenient opportunity causing least interruption to normal operation of labs.

### **1.13 TRAINING**

- .1 Objective is to ensure safe, reliable, cost-effective, energy-efficient operation of systems, effective on-going inspection, measurements of system performance, proper preventative maintenance, diagnosis and trouble-shooting. Clarify how to operate equipment and systems under emergency conditions until appropriate assistance arrives.
- .2 Provide instructions on start-up, operation, shut-down of equipment, components and systems. Include control features, implication on adjustment of set points, etc.
- .3 Instructors to be responsible for content and quality of training materials. Training materials to include:
  - .1 "As-Built" Contract Documents.
  - .2 Operating Manual.
  - .3 Maintenance Manual.
  - .4 Management Manual.
  - .5 TAB and PV Reports.
- .4 Project Manager will review training manuals.
- .5 Training materials to be in a format that permits future training procedures to same degree of detail.
- .6 Supplement training materials:
  - .1 Presentation material include MS Power Point and printed copies.
  - .2 Multimedia presentations.
  - .3 Manufacturer's training videos.
  - .4 Equipment models.



**END OF SECTION**

**AIR COOLED CONDENSER REPLACEMENT**

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PART 1 - GENERAL

1.1 SUMMARY

- .1 Not Used

1.2 SUBMITTALS

- .1 Submittals: in accordance with Section [01 33 00].
- .2 Shop drawings; submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario, Canada.
- .3 Submit for approval within 48 hours after Award of Contract.
- .4 Shop drawings to show:
  - .1 Mounting arrangements.
  - .2 Operating and maintenance clearances.
- .5 Shop drawings and product data accompanied by:
  - .1 Detailed drawings of bases, supports, and anchor bolts.
  - .2 Acoustical sound power data, where applicable.
  - .3 Points of operation on performance curves.
  - .4 Manufacturer to certify current model production.
  - .5 Certification of compliance to applicable codes.
- .6 Submit transmittal letter referred to in Section [01 33 00]:
- .7 Closeout Submittals:
  - .1 Provide operation and maintenance data for incorporation into manual specified in Section [01 78 00].
  - .2 Operation and maintenance manual approved by, and final copies deposited with, Departmental Representative before final inspection.
  - .3 Operation data to include:
    - .1 Control schematics for systems including environmental controls.
    - .2 Description of systems and their controls.
    - .3 Description of operation of systems at various loads together with reset schedules and seasonal variances.
    - .4 Operation instruction for systems and component.
    - .5 Description of actions to be taken in event of equipment failure.
    - .6 Valves schedule and flow diagram.
    - .7 Colour coding chart.
  - .4 Maintenance data to include:
    - .1 Servicing, maintenance, operation and trouble-shooting instructions for each item of equipment.
    - .2 Data to include schedules of tasks, frequency, tools required and task time.
  - .5 Performance data to include:

**AIR COOLED CONDENSER REPLACEMENT**

- .1 Equipment manufacturer's performance datasheets with point of operation as left after commissioning is complete.
- .2 Equipment performance verification test results.
- .3 Special performance data as specified.
- .4 Testing, adjusting and balancing reports as specified in Section [23 05 93].
- .6 Approvals:
  - .1 Submit [2] copies of draft Operation and Maintenance Manual to Departmental Representative for approval. Submission of individual data will not be accepted unless directed by Departmental Representative.
  - .2 Make changes as required and re-submit as directed by Departmental Representative.
- .7 Additional data:
  - .1 Prepare and insert into operation and maintenance manual additional data when need for it becomes apparent during specified demonstrations and instructions.
- .8 Site records:
  - .1 Departmental Representative will provide [1] set of reproducible mechanical drawings. Provide sets of prints as required for each phase of work. Mark changes as work progresses and as changes occur. Include changes to existing mechanical systems, control systems and low voltage control wiring.
  - .2 Transfer information weekly to reproducibles, revising reproducibles to show work as actually installed.
  - .3 Use different colour waterproof ink for each service.
  - .4 Make available for reference purposes and inspection.
- .9 As-built drawings and specifications:
  - .1 Prior to start of Testing, Adjusting and Balancing for HVAC, finalize production of as-built drawings.
  - .2 Identify each drawing in lower right hand corner in letters at least 12 mm high as follows: - "AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW MECHANICAL SYSTEMS AS INSTALLED" (Signature of Contractor) (date).
  - .3 Submit to Departmental Representative for approval and make corrections as directed.
  - .4 Perform testing, adjusting and balancing for HVAC using as-built drawings and specifications.
  - .5 Submit completed reproducible as-built drawings and specifications with Operating and Maintenance Manuals.
- .10 Submit copies of as-built drawings and specifications for inclusion in final TAB report.

**1.3 HALOCARBONS**

- .1 Comply with Federal Halocarbon Regulations 2003 under the Canadian Environmental Protection Act 1999, and ECCC Halocarbon Information Sheet dated January 2016.

## AIR COOLED CONDENSER REPLACEMENT

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### 1.4 QUALITY ASSURANCE

- .1 Quality Assurance: in accordance with Section [01 45 00].

SPEC NOTE: Use the following paragraph for PWGSC projects.

- .2 Health and Safety Requirements: do construction occupational health and safety in accordance with Section [01 35 30].

### 1.5 MAINTENANCE

SPEC NOTE: Specify spare parts to suit location and critical nature of projects.

- .1 Furnish spare parts in accordance with Section [01 78 00] as follows:
  - .1 One set of packing for each pump.
  - .2 One casing joint gasket for each size pump.
  - .3 One head gasket set for each heat exchanger.
  - .4 One glass for each gauge glass.
  - .5 One filter cartridge or set of filter media for each filter or filter bank in addition to final operating set.
- .2 Provide one set of special tools required to service equipment as recommended by manufacturers and in accordance with Section [01 78 00].
- .3 Furnish one commercial quality grease gun, grease and adapters to suit different types of grease and grease fittings.

### 1.6 DELIVERY, STORAGE, AND HANDLING

- .1 Waste Management and Disposal:
  - .1 Construction/Demolition Waste Management and Disposal: separate waste materials for reuse and recycling in accordance with Section [01 74 20].

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Select materials and products with recycled content or resource efficient characteristics whenever possible. Use least toxic sealants, adhesives, sealers and finishes necessary to comply with the requirements of the project

**AIR COOLED CONDENSER REPLACEMENT**

- .2 Complete list of equipment and materials to be used on this project and forming part of bid documents by adding manufacturer's name, model number and details of materials, and submit for approval.

PART 3 - EXECUTION

3.1 REPAIRS/RESTORATION

- .1 The Environmental Choice guideline CCD-047a, CCD-047b, CCD-047c, CCD-048 and the Master Painters Institute list of Green Approved Products provides acceptable standards for products that provide reduced environmental impacts.
- .2 Prime and touch up marred finished paintwork to match original.
- .3 Restore to new condition, finishes which have been damaged extensively for priming and touch-up.

3.2 CLEANING

- .1 Clean interior and exterior of all systems including strainers. Vacuum interior of ductwork and air handling units.

3.3 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
  - .1 Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and cleaning of product and submit Manufacturer's Field Reports as described in PART 1 - SUBMITTALS.
  - .2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
  - .3 Schedule site visits, to review Work, as directed in PART 1 - QUALITY ASSURANCE.
- .3 Verification requirements in accordance with Section [01 74 20], include:
  - .1 Materials and resources.
  - .2 Storage and collection of recyclables.
  - .3 Construction waste management.
  - .4 Resource reuse.
  - .5 Recycled content.
  - .6 Local/regional materials.

**AIR COOLED CONDENSER REPLACEMENT**

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- .7 Certified wood.
- .8 Low-emitting materials.

**3.4 DEMONSTRATION**

- .1 Departmental Representative will use equipment and systems for test purposes prior to acceptance. Supply labour, material, and instruments required for testing.
- .2 Trial usage to apply to following equipment and systems:
  - .1 Condenser Unit
  - .2 DX Cooling Coil
- .3 Supply tools, equipment and personnel to demonstrate and instruct operating and maintenance personnel in operating, controlling, adjusting, trouble-shooting and servicing of all systems and equipment during regular work hours, prior to acceptance.
- .4 Where specified elsewhere in Division 22 or 23 manufacturers to provide demonstrations and instructions.
- .5 Use operation and maintenance manual, as-built drawings, and audio visual aids as part of instruction materials.
- .6 Instruction duration time requirements as specified in appropriate sections.
- .7 Departmental Representative will record these demonstrations on video tape for future reference.

**3.5 PROTECTION**

- .1 Protect equipment and systems openings from dirt, dust, and other foreign materials with materials appropriate to system.

**END OF SECTION**

**AIR COOLED CONDENSER REPLACEMENT**

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PART 1 - GENERAL

- |                                  |    |  |
|----------------------------------|----|--|
| 1.1 Section Includes             | .1 | This Section covers items common to Sections of Division 26. This section supplements requirements of Section 01 11 55.  |
| 1.2 Codes and Standards          | .1 | Do complete installation in accordance with the latest CSA C22.1 (Canadian Electrical Code Part 1) except where specified otherwise.   |
|                                  | .2 | Do overhead and underground systems in accordance with CSA C22.3 No.1-01 and C22.3 No. 7-06 except where specified otherwise.  |
| 1.3 Scope of Work                | .1 | The scope of Work covered by these specifications and drawings covers the complete fit-up of the project area including but not limited to: <ul style="list-style-type: none"><li>.1 Power distribution, lighting,</li><li>.2 Barricades and signage,</li><li>.3 Panelboards and circuit breakers,</li><li>.4 Disconnect switches,</li><li>.5 Raceways, cables and wiring,</li><li>.7 Grounding and bonding,</li><li>.8 Labeling,</li><li>.9 Demolition,</li><li>.10 Relocation of existing wiring due to mechanical demolition,</li><li>.11 All necessary attachments, brackets and braces for mounting and supporting equipment,</li><li>.12 All necessary materials, labour, apparatus and tools to complete the installation,</li><li>.13 Structural Engineer's letter of approval for the equipment anchoring and supports.</li></ul> |
| 1.4 Care, Operation and Start-up | .1 | Instruct Departmental Representative and operating personnel in the operation, care and maintenance of systems, system equipment and components.   |
|                                  | .2 | Arrange and pay for services of manufacturer's factory service engineer to supervise start-up of installation, check, adjust, balance and calibrate components and instruct operating personnel.   |
|                                  | .3 | Provide these services for such period, and for as many visits as necessary to put equipment in operation, and ensure that operating personnel are conversant with all aspects of its care and operation.  |
| 1.5 Voltage Ratings              | .1 | Operating voltages: to CAN3-C235-83R2006.  |
|                                  | .2 | Motors, electric heating, control and distribution devices and equipment to operate satisfactorily at 60 Hz within normal  |

**AIR COOLED CONDENSER REPLACEMENT**

operating limits established by above standard. Equipment to operate in extreme operating conditions established in above standard without damage to equipment.

- 1.6 Permits, Fees and Inspection
  - .1 Submit to Electrical Inspection Department and Supply Authority necessary number of drawings and specifications for examination and approval prior to commencement of work.
  - .2 Pay associated fees.
  - .3 Departmental Representative will provide drawings and specifications required by Electrical Inspection Department and Supply Authority at no cost.
  - .4 Notify Departmental Representative of changes required by Electrical Inspection Department prior to making changes.
  - .5 Furnish Certificates of Acceptance from Electrical Inspection Department on completion of work to Departmental Representative.

- 1.7 Materials and Equipment
  - .1 Provide materials and equipment in accordance with Section 01 11 55 - General Requirements.
  - .2 Equipment and material to be CSA certified. Where there is no alternative to supplying equipment which is not CSA certified, obtain special approval from Electrical Inspection Department.
  - .3 Factory assemble control panels and component assemblies.

- 1.8 Finishes
  - .1 Shop finish metal enclosure surfaces by application of rust resistant primer inside and outside, and at least two coats of finish enamel.
    - .1 Paint outdoor electrical equipment "equipment green" finish to EEMAC Y1-1-1955.
    - .2 Paint indoor switchgear and distribution enclosures light grey to EEMAC 2Y-1-1958.
  - .2 Clean and touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.
  - .3 Clean and prime exposed non-galvanized hangers, racks and fastenings to prevent rusting.

- 1.9 Equipment Identification
  - .1 Identify electrical equipment with nameplates and labels as follows:
    - .1 Nameplates:
      - .1 Lamicoid 3 mm thick plastic engraving sheet, white face, black core, mechanically attached with self tapping screws.

**NAMEPLATE SIZES**

Size 1	10 x 50 mm	1 line	3 mm high letters
Size 2	12 x 70 mm	1 line	5 mm high letters
Size 3	12 x 70 mm	2 lines	3 mm high letters
Size 4	20 x 90 mm	1 line	8 mm high letters
Size 5	20 x 90 mm	2 lines	5 mm high letters
Size 6	25 x 100 mm	1 line	12 mm high letters



**AIR COOLED CONDENSER REPLACEMENT**

Size 7      25 x 100 mm      2 lines      6 mm high letters

- .2 Labels:
    - .1 Embossed plastic labels with 6 mm high letters unless specified otherwise.
    - .3 Wording on nameplates and labels to be approved by Departmental Representative prior to manufacture.
    - .4 Allow for average of twenty-five (25) letters per nameplate and label.
    - .5 Identification to be English.
    - .6 Nameplates for terminal cabinets and junction boxes to indicate system and/or voltage characteristics.
    - .7 Identify equipment with Size 3 labels engraved "ASSET INVENTORY No. [\_\_\_\_\_] ". Number as and if directed by Departmental Representative.
  - .2 Disconnects, starters and contactors: indicate equipment being controlled and voltage.
  - .3 Terminal cabinets and pull boxes: indicate system and voltage.
  - .4 Transformers: indicate capacity, primary and secondary voltages.
- 1.10 Wiring Identification
- .1 Identify wiring with permanent indelible identifying markings, either numbered or coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.
  - .2 Maintain phase sequence and colour coding throughout.
  - .3 Colour code: to CSA C22.1.
  - .4 Use colour coded wires in communication cables, matched throughout system.
- 1.11 Conduit and Cable Identification
- .1 Colour code conduits, boxes and metallic sheathed cables.
  - .2 Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 15 m intervals.
  - .3 Colours: 25 mm wide prime colour and 20 mm wide auxiliary colour.
- |                             | <b>Prime</b> | <b>Auxiliary</b> |
|-----------------------------|--------------|------------------|
| up to 250 V                 | Yellow       |                  |
| up to 600 V                 | Yellow       | Green            |
| up to 5 kV                  | Yellow       | Blue             |
| up to 15 kV                 | Yellow       | Red              |
| Telephone                   | Green        |                  |
| Other Communication Systems | Green        | Blue             |
| Fire Alarm                  | Red          |                  |
| Emergency Voice             | Red          | Blue             |
| Other Security Systems      | Red          | Yellow           |
- 1.12 Wiring Terminations
- .1 Lugs, terminals, screws used for termination of wiring to be suitable for either copper or aluminum conductors, as appropriate.

**AIR COOLED CONDENSER REPLACEMENT**

- 1.13 Manufacturers and CSA Labels .1 Visible and legible, after equipment is installed.
  
- 1.14 Location of Outlets .1 Locate outlets in accordance with Section 26 27 26.
  - .2 Do not install outlets back-to-back in wall; allow minimum 150 mm horizontal clearance between boxes.
  - .3 Change location of outlets at no extra cost or credit, providing distance does not exceed 3000 mm, and information is given before installation.
  - .4 Locate light switches on latch side of doors. Locate disconnect devices in mechanical and elevator machine rooms on latch side of floor.
  
- 1.15 Mounting Heights .1 Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.
  - .2 If mounting height of equipment is not specified or indicated, verify before proceeding with installation.
  - .3 Install electrical equipment at following heights unless indicated otherwise.
    - .1 Local switches: 1200 mm.
    - .2 Wall receptacles:
      - .1 General: 300 mm.
      - .2 Above top of continuous baseboard heater: 200 mm.
      - .3 Above top of counters or counter splash backs: 175 mm.
      - .4 In mechanical rooms: 1400 mm.
    - .3 Panelboards: as required by Code or as indicated.
    - .4 Telephone and interphone outlets: 300 mm.
    - .5 Wall mounted telephone and interphone outlets: 1200 mm.
    - .6 Fire alarm stations: 1200 mm minimum to 1400 mm maximum.
    - .7 Fire alarm bells: 2100 mm.
    - .8 Television outlets: 300 mm.
    - .9 Wall mounted speakers: 2100 mm.
    - .10 Clocks: 2100 mm.
    - .11 Door bell pushbuttons: 1200 mm.
  
- 1.16 Load Balance .1 Measure phase current to panelboards with normal loads operating at time of acceptance. Adjust branch circuit connections as required to obtain best balance of current between phases and record changes.
  - .2 Measure phase voltages at loads and adjust transformer taps to within 2% of rated voltage of equipment.
  - .3 Submit, at completion of work, report listing phase and neutral currents on panelboards, dry-core transformers and motor control centres, operating under normal load. State hour and date on which each load was measured, and voltage at time of

**AIR COOLED CONDENSER REPLACEMENT**

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- test.
- 1.17 Conduit and Cable Installation
- .1 Install conduit and sleeves prior to pouring of concrete. Sleeves through concrete: schedule 40 steel pipe, sized for free passage of conduit, and protruding 50 mm.
  - .2 If plastic sleeves are used in fire rated walls or floors, remove before conduit installation.
  - .3 Install cables, conduits and fittings to be embedded or plastered over, neatly and close to building structure so furring can be kept to minimum.
- 1.18 Field Quality Control
- .1 All electrical work to be carried out by qualified, licensed electricians or apprentices as per the conditions of the Provincial Act respecting manpower vocational training and qualification. Employees registered in a provincial apprentices program shall be permitted, under the direct supervision of a qualified licensed electrician, to perform specific tasks - the activities permitted shall be determined based on the level of training attained and the demonstration of ability to perform specific duties.
  - .2 The Work of this division to be carried out by a Contractor who holds a valid Master Electrical contractor license as issued by the Province that the work is being constructed.
  - .3 Conduct and pay for following tests:
    - .1 Motors, heaters and associated control equipment including sequenced operation of systems where applicable.
    - .2 Systems and data systems.
  - .4 Furnish manufacturer's certificate or letter confirming that entire installation as it pertains to each system has been installed to manufacturer's instructions.
  - .5 Insulation resistance testing.
    - .1 Megger circuits, feeders and equipment up to 350 V with a 500 V instrument.
    - .2 Megger 350-600 V circuits, feeders and equipment with a 1000 V instrument.
    - .3 Check resistance to ground before energizing.
  - .6 Carry out tests in presence of Departmental Representative.
  - .7 Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project.
  - .8 Submit test results for Departmental Representative's review.
- 1.19 Coordination of Protective Devices
- .1 Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to required values and settings.
- 1.20 Premium Time for Service Interruptions
- .1 There is to be no power, security, fire alarm, voice/data interruptions during the regular hours. Allow premium time in the week nights to disrupt existing services.
  - .2 Obtain prior written approval from Project Manager before any

**AIR COOLED CONDENSER REPLACEMENT**

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service interruptions.

- |  |    |  |
|--|----|--|
| 1.21 Record Drawings and Maintenance Manuals | .1 | Submit 5 CDs and 5 hardcopies of the record drawings in Autocad format after Departmental Representative's approval. |
|  | .2 | Submit 5 sets of maintenance manuals.  |
|  | .3 | Allow \$1,000 if Engineers are to update and print the record drawings.  |
| 1.22 Seismic Bracing                         | .1 | All new, existing and relocated luminaires and panels shall be seismic braced per NBC of Canada 2005.                |
| 1.23 Firestopping                            | .1 | Install fire stopping in new and existing penetrations through fire rated walls and floors.                          |
|  | .2 | Fire stopping material to match fire rating of walls and floors.   |

**END OF SECTION**

# **APPENDICIES**



Real Property Management, Technical Services

January 2016

335 River Rd.  
Ottawa, ON  
K1V 1C7

### **NOTICE TO CONTRACTORS AND SUBCONTRACTORS**

This information sheet is a non-exhaustive list of contractor responsibilities under the *Federal Halocarbon Regulations, 2003* (FHR 2003) pursuant to the *Canadian Environmental Protection Act, 1999*. By signing this agreement, the contractor acknowledges and understands these responsibilities when work is carried out on Environment & Climate Change Canada (ECCC) owned and/or managed halocarbon-containing equipment. Deviation from these responsibilities should be brought to the attention of the ECCC contract authority immediately, and may result in termination of the contract.

- Only a certified and licensed technician may install, service, leak test or charge a halocarbon containing equipment that is owned and/or managed by ECCC.
- Any work done on a halocarbon air conditioning or refrigeration system that is owned and/or managed by ECCC must be done in accordance with the Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems, 2014.
- If a leak test is conducted on a piece of air conditioning or refrigeration equipment, the contractor will affix a notice containing ALL of the information as required in Schedule 2, item 2 of the FHR 2003: a) name and address of owner of the system, b) name of operator of the system, c) specific location of the system d) description of the system e) name of certified person, f) certificate number g) name of employer of certified person h) type of halocarbon in the system i) charging capacity of the system j) date of last two leak tests.
- No halocarbon shall be knowingly released from a refrigeration or air conditioning system, or from a fire extinguishing system (unless to fight a fire).
- Any work done on an air conditioning, refrigeration, or fire extinguishing system that may result in a release of a halocarbon, the halocarbon shall first be recovered into a container designed for that purpose.
- In the event that a halocarbon containing system must be charged, a leak test will first be performed.

- If a leak is detected for a halocarbon containing system, the owner of the equipment (and contract authority) must be informed of the leak as soon as possible.
  - In the case of a leak resulting in a **release of greater than 100kg**, or of unknown weight from a unit with a capacity equal to or greater than 100kg, the **contractor** must report the release within 24 hours to Environment & Climate Change Canada at **1-800-667-7525** and immediately inform your ECCC contact. A verbal or written report must be submitted within 24 hours followed by a written report within 14 days of detecting the release.
  - The contractor must report all halocarbon releases over 10 kg. If a leak is **greater than 10kg and less than 100kg** a written report must be filed. Written reports for releases of this size must be sent to the owner of the equipment within 14 days of detecting the release.
- Upon servicing a halocarbon-containing system, the service log book for the unit shall be completed by the contractor.
- Before dismantling, decommissioning or destroying any halocarbon containing system; the halocarbon(s) will be recovered and a notice shall be affix to the system. The notice will meet the requirements listed in Schedule 2, Item 3 of the FHR 2003. Copy of notice to be provided to ECCC Representative.
- The contractor is familiar with the definitions, and prohibitions outlined in the Federal Halocarbon Regulations, 2003. (SOR/2003-289)

Signature of contractor: \_\_\_\_\_

Contract number: \_\_\_\_\_

Vendor / Contractor Firm Name and Address:

Please return this document to the following email address:  
[nikolas.fehr@canada.ca](mailto:nikolas.fehr@canada.ca) or fax to (604) 903-4408.

Resources: *Canadian Environmental Protection Act, 1999*  
<http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D44ED61E-1>

*2003 Federal Halocarbon Regulations:*  
<http://laws-lois.justice.gc.ca/eng/regulations/sor-2003-289/index.html>

*Environmental Code of Practice for Elimination of Fluorocarbon Emissions  
from Refrigeration and Air Conditioning Systems:*  
<https://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D918C063-1>





CANADA

CONSOLIDATION

CODIFICATION

## Federal Halocarbon Regulations, 2003

## Règlement fédéral sur les halocarbures (2003)

SOR/2003-289

DORS/2003-289

Current to January 6, 2016

À jour au 6 janvier 2016

Last amended on July 30, 2009

Dernière modification le 30 juillet 2009

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## OFFICIAL STATUS OF CONSOLIDATIONS

Subsections 31(1) and (3) of the *Legislation Revision and Consolidation Act*, in force on June 1, 2009, provide as follows:

### **Published consolidation is evidence**

**31 (1)** Every copy of a consolidated statute or consolidated regulation published by the Minister under this Act in either print or electronic form is evidence of that statute or regulation and of its contents and every copy purporting to be published by the Minister is deemed to be so published, unless the contrary is shown.

...

### **Inconsistencies in regulations**

**(3)** In the event of an inconsistency between a consolidated regulation published by the Minister under this Act and the original regulation or a subsequent amendment as registered by the Clerk of the Privy Council under the *Statutory Instruments Act*, the original regulation or amendment prevails to the extent of the inconsistency.

## NOTE

This consolidation is current to January 6, 2016. The last amendments came into force on July 30, 2009. Any amendments that were not in force as of January 6, 2016 are set out at the end of this document under the heading "Amendments Not in Force".

## CARACTÈRE OFFICIEL DES CODIFICATIONS

Les paragraphes 31(1) et (3) de la *Loi sur la révision et la codification des textes législatifs*, en vigueur le 1<sup>er</sup> juin 2009, prévoient ce qui suit :

### **Codifications comme élément de preuve**

**31 (1)** Tout exemplaire d'une loi codifiée ou d'un règlement codifié, publié par le ministre en vertu de la présente loi sur support papier ou sur support électronique, fait foi de cette loi ou de ce règlement et de son contenu. Tout exemplaire donné comme publié par le ministre est réputé avoir été ainsi publié, sauf preuve contraire.

[...]

### **Incompatibilité – règlements**

**(3)** Les dispositions du règlement d'origine avec ses modifications subséquentes enregistrées par le greffier du Conseil privé en vertu de la *Loi sur les textes réglementaires* l'emportent sur les dispositions incompatibles du règlement codifié publié par le ministre en vertu de la présente loi.

## NOTE

Cette codification est à jour au 6 janvier 2016. Les dernières modifications sont entrées en vigueur le 30 juillet 2009. Toutes modifications qui n'étaient pas en vigueur au 6 janvier 2016 sont énoncées à la fin de ce document sous le titre « Modifications non en vigueur ».

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**TABLE OF PROVISIONS****Federal Halocarbon Regulations, 2003**

1	Interpretation
2	Application
3	Prohibitions
7	Recovery
9	Installation, Servicing, Leak Testing and Charging
9	Refrigeration Systems and Air-Conditioning Systems
22	Fire-Extinguishing Systems
31	Service Logs
32	Release Reports
34	Permits
36	Logs, Notices, Records and Reports
37	Repeal
38	Coming into Force

**SCHEDULE 1****SCHEDULE 2****TABLE ANALYTIQUE****Règlement fédéral sur les halocarbures (2003)**

1	Définitions
2	Champ d'application
3	Interdictions
7	Récupération
9	Installation, entretien, détection des fuites et charge
9	Systèmes de réfrigération et de climatisation
22	Système d'extinction d'incendie
31	Registre d'entretien
32	Rapport sur le rejet
34	Permis
36	Avis, comptes rendus, documents, rapports et registres
37	Abrogation
38	Entrée en vigueur

**ANNEXE 1****ANNEXE 2**

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Registration  
SOR/2003-289 August 13, 2003

CANADIAN ENVIRONMENTAL PROTECTION ACT,  
1999

**Federal Halocarbon Regulations, 2003**

P.C. 2003-1203 August 13, 2003

Whereas, pursuant to subsection 332(1) of the *Canadian Environmental Protection Act, 1999*<sup>a</sup>, the Minister of the Environment published in the *Canada Gazette*, Part I, on December 7, 2002, a copy of the proposed Regulations under the title *Federal Halocarbon Regulations, 2002*, substantially in the form set out in the annexed Regulations, and persons were given an opportunity to file comments with respect to the Regulations or a notice of objection requesting that a board of review be established and stating the reasons for the objection;

Therefore, Her Excellency the Governor General in Council, on the recommendation of the Minister of the Environment, pursuant to subsection 209(1) of the *Canadian Environmental Protection Act, 1999*<sup>a</sup>, hereby makes the annexed *Federal Halocarbon Regulations, 2003*.

Enregistrement  
DORS/2003-289 Le 13 août 2003

LOI CANADIENNE SUR LA PROTECTION DE  
L'ENVIRONNEMENT (1999)

**Règlement fédéral sur les halocarbures (2003)**

C.P. 2003-1203 Le 13 août 2003

Attendu que, conformément au paragraphe 332(1) de la *Loi canadienne sur la protection de l'environnement (1999)*<sup>a</sup>, le ministre de l'Environnement a fait publier dans la *Gazette du Canada* Partie I, le 7 décembre 2002, le projet de règlement intitulé *Règlement fédéral sur les halocarbures (2002)*, conforme en substance au texte ci-après, et que les intéressés ont ainsi eu la possibilité de présenter leurs observations à cet égard ou un avis d'opposition motivé demandant la constitution d'une commission de révision,

À ces causes, sur recommandation du ministre de l'Environnement et en vertu du paragraphe 209(1) de la *Loi canadienne sur la protection de l'environnement (1999)*<sup>a</sup>, Son Excellence la Gouverneure générale en conseil prend le *Règlement fédéral sur les halocarbures (2003)*, ci-après.

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<sup>a</sup> S.C. 1999, c. 33

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<sup>a</sup> L.C. 1999, ch. 33

## Federal Halocarbon Regulations, 2003

### Interpretation

**1** The definitions in this section apply in these Regulations.

**Act** means the *Canadian Environmental Protection Act, 1999*. (*Loi*)

**air-conditioning system** means an air-conditioning system, including any associated equipment, that contains or is designed to contain a halocarbon refrigerant. (*système de climatisation*)

**bromofluorocarbon** means a fully halogenated bromofluorocarbon each molecule of which contains one, two or three carbon atoms and at least one atom of bromine and one atom of fluorine. (*bromofluorocarbure*)

**certificate** means a certificate recognized by three or more provinces, or by the province in which the work of the service technician who holds the certificate is being done, indicating successful completion of an environmental awareness course in recycling, recovery and handling procedures in respect of halocarbon refrigerants as outlined in the Refrigerant Code of Practice. (*certificat*)

**certified person**, in respect of a refrigeration system or an air-conditioning system, means a service technician who holds a certificate. (*personne accréditée*)

**charging** means to add a halocarbon to a system. (*charger*)

**chiller** means an air-conditioning system or refrigeration system that has a compressor, an evaporator and a secondary refrigerant. (*refroidisseur*)

**chlorofluorocarbon** means a fully halogenated chlorofluorocarbon each molecule of which contains one, two or three carbon atoms and at least one atom of chlorine and one atom of fluorine. (*chlorofluorocarbure*)

**fire-extinguishing system** means fire-extinguishing equipment, including portable or fixed equipment and any associated equipment, that contains or is designed to contain a halocarbon fire-extinguishing agent. (*système d'extinction d'incendie*)

## Règlement fédéral sur les halocarbures (2003)

### Définitions

**1** Les définitions qui suivent s'appliquent au présent règlement.

**bromofluorocarbure** Bromofluorocarbure entièrement halogéné dont chaque molécule contient un, deux ou trois atomes de carbone et au moins un atome de brome et un atome de fluor. (*bromofluorocarbon*)

**certificat** Certificat, reconnu par au moins trois provinces, ou par la province dans laquelle le technicien d'entretien qui en est le titulaire effectue un travail, qui indique que le titulaire a terminé avec succès un cours de sensibilisation environnementale portant sur le recyclage, la récupération et la manutention de frigorigènes aux halocarbures comme le prévoit le Code de pratique en réfrigération. (*certificate*)

**charger** Ajouter un halocarbure à un système. (*charging*)

**chlorofluorocarbure** Chlorofluorocarbure entièrement halogéné dont chaque molécule contient un, deux ou trois atomes de carbone et au moins un atome de chlore et un atome de fluor. (*chlorofluorocarbon*)

**Code de pratique en réfrigération** Le *Code de pratiques environnementales pour l'élimination des rejets dans l'atmosphère de fluorocarbures provenant des systèmes de réfrigération et de conditionnement d'air*, publié par le ministère de l'Environnement en mars 1996, avec ses modifications successives. (*Refrigerant Code of Practice*)

**entretien** S'entend notamment de la maintenance, de la modification, de la charge, de la réparation, du déménagement, de la destruction, de la mise hors service, du désassemblage, de la mise en service et de l'essai d'un système. Ne sont pas visés par la présente définition les essais relatifs à la fabrication et à la production du système. (*service*)

**extincteur portatif** Bonbonne ou cartouche contenant un halocarbure qui est utilisée pour éteindre les incendies, a une capacité de charge d'au plus 25 kg et peut être portée ou roulée sur le lieu de l'incendie. (*portable fire extinguisher*)

**halocarbon** means a substance set out in Schedule 1, whether existing alone or in a mixture, and includes isomers of any such substance. (*halocarbure*)

**hydrobromofluorocarbon** means a hydrobromofluorocarbon each molecule of which contains one, two or three carbon atoms and at least one atom of hydrogen, one atom of bromine and one atom of fluorine. (*hydrobromofluorocarbure*)

**hydrochlorofluorocarbon** means a hydrochlorofluorocarbon each molecule of which contains one, two or three carbon atoms and at least one atom of hydrogen, one atom of chlorine and one atom of fluorine. (*hydrochlorofluorocarbure*)

**hydrofluorocarbon** means a hydrofluorocarbon each molecule of which contains only carbon, hydrogen and fluorine atoms. (*hydrofluorocarbure*)

**installation** does not include the reactivation of a system by the same owner at the same site. (*installation*)

**leak** means a release of a halocarbon from a system. (*fuite*)

**military vehicle** means a vehicle that is designed to be used in combat, or in a combat support role, but does not include an administrative vehicle. (*véhicule militaire*)

**owner** means to hold a right in or to have possession, control or custody of, to be responsible for the maintenance, operation or management of, or to have the power to dispose of, a system. (*propriétaire*)

**perfluorocarbon** means a fully fluorinated fluorocarbon each molecule of which contains only carbon and fluorine atoms. (*perfluorocarbure*)

**portable fire extinguisher** means a cylinder or cartridge containing a halocarbon that is used for extinguishing fires, that has a charging capacity of 25 kg or less and that can be carried or wheeled to the site of a fire. (*extincteur portatif*)

**purge system** means a purge unit on a refrigeration system or an air-conditioning system, including any associated recovery equipment. (*système à vidange*)

**reclamation**, in respect of a halocarbon, means the recovery, re-processing and upgrading through processes such as filtering, drying, distilling and treating chemically in order to restore the halocarbon to industry-accepted reuse standards. (*régénération*)

**recovery**, in respect of a halocarbon, means

**fuite** Rejet d'un halocarbure d'un système. (*leak*)

**halocarbure** Substance visée à l'annexe 1, y compris ses isomères, qui se présente seule ou dans un mélange. (*halocarbon*)

**hydrobromofluorocarbure** Hydrobromofluorocarbure dont chaque molécule contient un, deux ou trois atomes de carbone et au moins un atome d'hydrogène, un atome de brome et un atome de fluor. (*hydrobromofluorocarbon*)

**hydrochlorofluorocarbure** Hydrochlorofluorocarbure dont chaque molécule contient un, deux ou trois atomes de carbone et au moins un atome d'hydrogène, un atome de chlore et un atome de fluor. (*hydrochlorofluorocarbon*)

**hydrofluorocarbure** Hydrofluorocarbure dont chaque molécule ne contient que des atomes de carbone, d'hydrogène et de fluor. (*hydrofluorocarbon*)

**installation** N'est pas comprise dans l'installation la remise en état de fonctionnement d'un système dans les mêmes lieux et par le même propriétaire. (*installation*)

**Loi** La Loi canadienne sur la protection de l'environnement (1999). (*Act*)

**navire** S'entend au sens du paragraphe 122(1) de la Loi. (*ship*)

**perfluorocarbure** Fluorocarbure entièrement fluoré dont chaque molécule ne contient que des atomes de carbone et de fluor. (*perfluorocarbon*)

**personne accréditée** Dans le cas d'un système de réfrigération ou de climatisation, technicien d'entretien titulaire d'un certificat. (*certified person*)

**petit système de climatisation** Système de climatisation qui n'est pas contenu dans un véhicule automobile et qui, selon le fabricant, a une puissance frigorifique de moins de 19 kW. (*small air-conditioning system*)

**petit système de réfrigération** Système de réfrigération — autre que celui qui est installé dans un moyen de transport, est fixé à celui-ci ou est normalement utilisé avec lui — qui a une puissance frigorifique nominale de moins de 19 kW. (*small refrigeration system*)

**propriétaire** Quiconque détient un droit sur un système, en a la possession, la responsabilité ou la garde, est chargé de son entretien, son exploitation ou sa gestion, ou a le pouvoir de l'aliéner. (*owner*)

(a) collection after it has been used; or

(b) collection from machinery, equipment, a system or a container during servicing or before dismantling, decommissioning or destruction of the machinery, equipment, system or container. (*récupération*)

**recycling**, in respect of a halocarbon, means recovery and, if needed, cleaning by a process such as filtering or drying, and re-using to charge a system. (*recyclage*)

**Refrigerant Code of Practice** means the *Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air-Conditioning Systems*, published by the Department of the Environment in March, 1996, as amended from time to time. (*Code de pratique en réfrigération*)

**refrigeration system** means a refrigeration system, including any associated equipment, that contains or is designed to contain a halocarbon refrigerant. (*système de réfrigération*)

**service** includes any modification, charging, maintenance, repair, moving, dismantling, decommissioning, destruction, start-up and testing of a system, but does not include testing related to the manufacture and production of the system. (*entretien*)

**ship** has the same meaning as in subsection 122(1) of the Act. (*navire*)

**small air-conditioning system** means an air-conditioning system that is not contained in a motor vehicle and that has a refrigeration capacity of less than 19 kW as rated by the manufacturer. (*petit système de climatisation*)

**small refrigeration system** means a refrigeration system, other than one that is installed in, that is attached to or that normally operates in conjunction with a means of transportation, that has a refrigeration capacity of less than 19 kW as rated by the manufacturer. (*petit système de réfrigération*)

**solvent system** means an application or system that uses halocarbons as solvents, including cleaning applications and associated equipment containing or designed to contain a halocarbon solvent. It does not include those applications or systems that use halocarbons as laboratory analytical standards or laboratory reagents or in a process in which they are converted to another substance or are generated but ultimately converted to a different substance. (*système de solvants*)

**récupération** Selon le cas, le fait :

a) de recueillir un halocarbure après son utilisation;

b) d'extraire un halocarbure de machines, d'équipements, de systèmes ou de contenants pendant leur entretien ou avant leur destruction, désassemblage ou mise hors service. (*recovery*)

**recyclage** La récupération et, au besoin, le nettoyage d'un halocarbure au moyen d'opérations telles que le filtrage ou le séchage, et sa réutilisation pour charger des systèmes. (*recycling*)

**refroidisseur** Système de climatisation ou système de réfrigération qui comporte un compresseur, un évaporateur et un frigorigène secondaire. (*chiller*)

**régénération** La récupération, le retraitement et l'amélioration d'un halocarbure au moyen d'opérations telles que le filtrage, le séchage, la distillation et le traitement chimique afin qu'il corresponde aux normes de réutilisation acceptées dans l'industrie. (*reclamation*)

**système** Sauf indication contraire du contexte, s'entend du système de climatisation, du système d'extinction d'incendie, du système de réfrigération ou du système de solvants. (*system*)

**système à vidange** Unité de vidange d'un système de réfrigération ou de climatisation, y compris tout matériel de récupération complémentaire. (*purge system*)

**système de climatisation** Système de climatisation, y compris le matériel complémentaire, contenant ou conçu pour contenir un frigorigène aux halocarbures. (*air-conditioning system*)

**système de réfrigération** Système de réfrigération, y compris le matériel complémentaire, contenant ou conçu pour contenir un frigorigène aux halocarbures. (*refrigeration system*)

**système de solvants** Application ou système utilisant des halocarbures comme solvants, y compris les applications de nettoyage et le matériel complémentaire contenant ou conçu pour contenir des solvants aux halocarbures. Ne sont pas visés par la présente définition les applications ou systèmes qui utilisent des halocarbures comme étalons d'analyse ou réactifs de laboratoire ni ceux qui utilisent des halocarbures dans un procédé par lequel ces derniers sont convertis en une autre substance ou sont générés mais sont en fin de compte convertis en une substance différente. (*solvent system*)

**system**, unless the context requires otherwise, means an air-conditioning system, a fire-extinguishing system, a refrigeration system or a solvent system. (*système*)

SOR/2009-221, s. 1.

## Application

**2 (1)** These Regulations apply in respect of systems located in Canada that are

(a) owned by Her Majesty in right of Canada, a board or an agency of the Government of Canada, a Crown corporation, as defined in subsection 83(1) of the *Financial Administration Act*, or a federal work or undertaking; or

(b) located on aboriginal lands or federal lands.

(2) These Regulations do not apply to foam products.

## Prohibitions

**3** No person shall release, or allow or cause the release of, a halocarbon that is contained in

(a) a refrigeration system or an air-conditioning system, or any associated container or device, unless the release results from a purge system that emits less than 0.1 kg of halocarbons per kilogram of air purged to the environment;

(b) a fire-extinguishing system or any associated container or device, except to fight a fire that is not set for training purposes, or unless the release occurs during the recovery of halocarbons under section 7; or

(c) a container or equipment used in the reuse, recycling, reclamation or storage of a halocarbon.

**4 (1)** No person shall install a system that operates or is intended to operate with a halocarbon listed in any of items 1 to 9 of Schedule 1 unless authorized to do so by a permit issued under these Regulations.

**système d'extinction d'incendie** Matériel pour l'extinction d'incendie, y compris le matériel portatif ou fixe et tout autre matériel complémentaire, contenant ou conçu pour contenir un agent extincteur aux halocarbures. (*fire-extinguishing system*)

**véhicule militaire** Tout véhicule conçu en vue d'être utilisé pour le combat ou d'apporter un soutien lors des combats. La présente définition ne vise pas les véhicules administratifs. (*military vehicle*)

DORS/2009-221, art. 1.

## Champ d'application

**2 (1)** Le présent règlement s'applique aux systèmes qui sont situés au Canada et, selon le cas :

a) dont sont propriétaires Sa Majesté du chef du Canada, une commission ou un organisme fédéraux, une société d'État au sens du paragraphe 83(1) de la *Loi sur la gestion des finances publiques* ou une entreprise fédérale;

b) qui se trouvent sur une terre autochtone ou sur le territoire domanial.

(2) Le présent règlement ne s'applique pas aux produits de mousse.

## Interdictions

**3** Il est interdit de rejeter un halocarbure — ou d'en permettre ou d'en causer le rejet — contenu, selon le cas :

a) dans un système de réfrigération ou de climatisation, ou dans tout contenant ou dispositif complémentaire, sauf si le rejet se fait à partir d'un système à vidange qui émet moins de 0,1 kg d'halocarbure par kilogramme d'air vidangé dans l'environnement;

b) dans un système d'extinction d'incendie ou dans tout contenant ou dispositif complémentaire, sauf pour lutter contre un incendie qui n'est pas allumé à des fins de formation ou si le rejet a lieu durant la récupération des halocarbures aux termes de l'article 7;

c) dans un contenant ou du matériel servant à la réutilisation, au recyclage, à la régénération ou à l'enreposage d'un halocarbure.

**4 (1)** Il est interdit d'installer un système fonctionnant ou conçu pour fonctionner avec un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 à moins d'y être autorisé par un permis délivré au titre du présent règlement.



**(2)** Effective January 1, 2005, no person shall install a solvent system that operates or is intended to operate with a halocarbon listed in item 11 or 12 of Schedule 1 unless authorized to do so by a permit issued under these Regulations.

**5 (1)** No person shall use a halocarbon listed in any of items 1 to 9 of Schedule 1 as a solvent in a solvent system.

**(2)** Effective January 1, 2005, no person shall use a halocarbon listed in item 11 or 12 of Schedule 1 as a solvent in a solvent system unless authorized to do so by a permit issued under these Regulations.

**6 (1)** No person shall store, transport or purchase a halocarbon unless it is in a container designed and manufactured to be refilled and to contain that specific type of halocarbon.

**(2)** Subsection (1) does not apply in respect of halocarbons used as laboratory analytical standards or laboratory reagents.

SOR/2009-221, s. 2(F).

## Recovery

**7 (1)** Subject to subsection (2), a person who installs, services, leak tests or charges a refrigeration system, an air-conditioning system or a fire-extinguishing system, or who does any other work on any of those systems that may result in the release of a halocarbon, shall recover, into a container designed and manufactured to be refilled and to contain that specific type of halocarbon, any halocarbon that would otherwise be released during those procedures.

**(2)** A person who recovers halocarbons from a fire-extinguishing system shall use recovery equipment with a transfer efficiency of at least 99% as referred to in the publication ULC/ORD-C1058.5-2004, of the Underwriters' Laboratories of Canada, entitled *Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment*.

**(3)** The reference to the publication in subsection (2) shall be read as excluding its preface.

SOR/2009-221, s. 3.

**8 (1)** Before dismantling, decommissioning or destroying any system, a person shall recover all halocarbons contained in the system into a container designed and manufactured to be refilled and to contain that specific type of halocarbon.

**(2)** À compter du 1<sup>er</sup> janvier 2005, il est interdit d'installer un système de solvants fonctionnant ou conçu pour fonctionner avec un halocarbure figurant aux articles 11 ou 12 de l'annexe 1 à moins d'y être autorisé par un permis délivré au titre du présent règlement.

**5 (1)** Il est interdit d'utiliser un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 comme solvant dans un système de solvants.

**(2)** À compter du 1<sup>er</sup> janvier 2005, il est interdit d'utiliser un halocarbure figurant aux articles 11 ou 12 de l'annexe 1 comme solvant dans un système de solvants à moins d'y être autorisé par un permis délivré aux termes du présent règlement.

**6 (1)** Il est interdit d'entreposer, de transporter ou d'acheter un halocarbure qui n'est pas dans un contenant conçu et fabriqué pour être réutilisé et pour contenir le type d'halocarbure en cause.

**(2)** Le paragraphe (1) ne s'applique pas aux halocarbures utilisés comme étalons d'analyse ou réactifs de laboratoire.

DORS/2009-221, art. 2(F).

## Récupération

**7 (1)** Sous réserve du paragraphe (2), toute personne qui installe, entretient ou charge un système de réfrigération, de climatisation ou d'extinction d'incendie, ou effectue sur lui les essais de détection des fuites ou tout autre travail pouvant entraîner le rejet d'un halocarbure, doit récupérer tout halocarbure qui serait par ailleurs rejeté durant ces opérations dans un contenant conçu et fabriqué pour être réutilisé et pour contenir le type d'halocarbure en cause.

**(2)** Le matériel de récupération à utiliser, pour la récupération d'un halocarbure d'un système d'extinction d'incendie, doit avoir une efficacité de transfert d'au moins 99 % selon la publication ULC/ADR-C1058.5-2004 des Laboratoires des assureurs du Canada intitulée *Matériel de récupération et de remise en état des agents propres à l'halocarbure et au halon*.

**(3)** La publication visée au paragraphe (2) doit être interprétée sans tenir compte de sa préface.

DORS/2009-221, art. 3.

**8 (1)** Toute personne qui se propose de détruire, de désassembler ou de mettre hors service un système doit, au préalable, en récupérer les halocarbures dans un contenant conçu et fabriqué pour être réutilisé et pour contenir le type d'halocarbure en cause.

**(2)** Before dismantling, decommissioning or destroying a system, a person shall affix a notice to the system containing the information set out in column 3 item 1 of Schedule 2.

**(3)** No person shall remove a notice referred to in subsection (2) except to replace it with another such notice.

**(4)** In case of the dismantling, decommissioning or destruction of any system, the owner shall keep a record of the information contained in the notice referred to in subsection (2).

## Installation, Servicing, Leak Testing and Charging

### Refrigeration Systems and Air-Conditioning Systems

**9 (1)** Only a certified person may install, service, leak test or charge a refrigeration system or an air-conditioning system or do any other work on the system that may result in the release of a halocarbon.

**(2)** A person who does any of the work referred to in subsection (1) shall do so in accordance with the Refrigerant Code of Practice.

**(3)** No person shall charge a refrigeration system or an air-conditioning system with a halocarbon listed in any of items 1 to 9 of Schedule 1 for the purpose of leak testing the system, except when recommended in the Refrigerant Code of Practice.

**10 (1)** A certified person who conducts a leak test on a refrigeration system or an air-conditioning system shall affix a notice to the system containing the information set out in column 3 of item 2 of Schedule 2.

**(2)** No person shall remove a notice referred to in subsection (1) except to replace it with another such notice.

**(3)** The owner shall keep a record of the information contained in the notice referred to in subsection (1).

**11 (1)** The owner shall conduct a leak test, at least once every 12 months, of all of the components of a refrigeration system or an air-conditioning system that come into contact with a halocarbon.

**(2)** Toute personne qui se propose de détruire, de désassembler ou de mettre hors service un système doit, au préalable, y apposer un avis comportant les renseignements prévus à la colonne 3 de l'article 1 de l'annexe 2.

**(3)** Il est interdit d'enlever l'avis à moins de le remplacer par un autre comportant les renseignements visés au paragraphe (2).

**(4)** En cas de destruction, de désassemblage ou de mise hors service d'un système, le propriétaire conserve un document des renseignements contenus dans l'avis.

## Installation, entretien, détection des fuites et charge

### Systèmes de réfrigération et de climatisation

**9 (1)** Seule une personne accréditée peut installer ou entretenir un système de réfrigération ou de climatisation, le charger ou effectuer sur lui des essais de détection des fuites ou tout autre travail pouvant entraîner le rejet d'un halocarbure.

**(2)** La personne qui exécute une opération mentionnée au paragraphe (1) doit se conformer au Code de pratique en réfrigération.

**(3)** Il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système de réfrigération ou de climatisation dans le but d'effectuer des essais de détection des fuites, à moins que le Code de pratique en réfrigération ne le recommande.

**10 (1)** La personne accréditée qui effectue des essais de détection des fuites sur un système de réfrigération ou de climatisation y appose un avis comportant les renseignements prévus à la colonne 3 de l'article 2 de l'annexe 2.

**(2)** Il est interdit d'enlever l'avis à moins de le remplacer par un autre comportant les renseignements visés au paragraphe (1).

**(3)** Le propriétaire conserve un document des renseignements contenus dans l'avis.

**11 (1)** Le propriétaire effectue, au moins une fois tous les douze mois, un essai de détection des fuites de tout composant du système de réfrigération ou de climatisation qui entre en contact avec un halocarbure.

**(2)** Subsection (1) does not apply to small refrigeration systems or small air-conditioning systems, or to air-conditioning systems that are designed for occupants in motor vehicles.

**12** Subject to section 14, no person shall charge a refrigeration system or an air-conditioning system unless, before charging it,

- (a)** a certified person leak-tests the system; and
- (b)** if a leak is detected, the certified person notifies the owner and the owner repairs the leak.

**13** As soon as possible after a leak from a refrigeration system or an air-conditioning system is detected, and in any case within seven days after the day on which the leak is detected, the owner of the system shall

- (a)** repair the leak;
- (b)** isolate the leaking portion of the system and recover the halocarbon from that portion; or
- (c)** recover the halocarbon from the system.

**14 (1)** If a leak is detected from a refrigeration system or an air-conditioning system and it is necessary to charge the system to prevent an immediate danger to human life or health, section 12 does not apply to the system during the period in which the danger persists, up to a maximum of seven days after the day on which the leak is detected.

**(2)** If a refrigeration system or an air-conditioning system is charged under the circumstances described in subsection (1),

- (a)** the person who charged the system shall immediately notify its owner of the charge; and
- (b)** the owner shall, within seven days after receiving notice under paragraph (a), submit a written record to the Minister describing
  - (i)** the nature of the immediate danger to human life or health and the circumstances that justify charging the system in order to prevent the danger,
  - (ii)** the amount of halocarbon charged to the system, and
  - (iii)** the date of repair of the leak or recovery of the remaining halocarbon from the system.

**(2)** Le paragraphe (1) ne s'applique pas aux petits systèmes de réfrigération ou de climatisation, ni aux systèmes de climatisation conçus pour les occupants d'un véhicule automobile.

**12** Sous réserve de l'article 14, il est interdit de charger un système de réfrigération ou de climatisation à moins que :

- a)** la personne accréditée n'ait préalablement soumis le système à un essai de détection des fuites;
- b)** s'il existe une fuite, elle n'en avise le propriétaire et que celui-ci ne la répare.

**13** Le propriétaire d'un système de réfrigération ou de climatisation doit, dès que possible après la détection d'une fuite, mais au plus tard sept jours suivant la date de détection :

- a)** soit réparer la fuite;
- b)** soit isoler la partie du système qui fuit et récupérer l'halocarbure qui en provient;
- c)** soit récupérer l'halocarbure provenant du système.

**14 (1)** Si un système de réfrigération ou de climatisation présente une fuite et qu'il apparaît nécessaire de le charger afin de prévenir un danger immédiat pour la vie ou la santé humaines, l'application de l'article 12 est suspendue tant que le danger persiste, jusqu'à concurrence de sept jours suivant la date de détection de la fuite.

**(2)** Si le système est chargé dans la situation visée au paragraphe (1), les règles suivantes s'appliquent :

- a)** la personne qui l'a chargé en avise le propriétaire sans délai;
- b)** dans les sept jours suivant la réception de l'avis, le propriétaire présente au ministre un compte rendu écrit indiquant :
  - (i)** la nature du danger immédiat pour la vie ou la santé humaines et les circonstances qui justifient le chargement pour prévenir le danger,
  - (ii)** la quantité d'halocarbure chargée dans le système,
  - (iii)** la date de la réparation de la fuite ou de la récupération de l'halocarbure restant dans le système.

**15** No person shall charge an air-conditioning system that is designed for occupants in motor vehicles with a halocarbon listed in any of items 1 to 9 of Schedule 1.

**16** Effective 90 days after the day on which these Regulations come into force, no person shall charge a refrigeration system that is installed in, that is attached to, or that normally operates in conjunction with a means of transportation, other than a refrigeration system for use on a military ship or a chiller, with a halocarbon listed in any of items 1 to 9 of Schedule 1.

SOR/2009-221, s. 4.

**17** Effective January 1, 2005, no person shall charge a system listed below with a halocarbon listed in any of items 1 to 9 of Schedule 1:

- (a)** a refrigeration system, other than a chiller, a small refrigeration system or a refrigeration system for use on a military ship; and
- (b)** an air-conditioning system, other than a chiller, a small air-conditioning system or an air-conditioning system for use on a military ship.

**18 (1)** Subject to subsection (2), effective January 1, 2005, no person shall charge a chiller, other than one for use on a military ship, that has undergone an overhaul that includes the following procedure or repair with a halocarbon listed in any of items 1 to 9 of Schedule 1:

- (a)** the replacement or modification of an internal sealing device;
- (b)** the replacement or modification of an internal mechanical part other than
  - (i)** an oil heater,
  - (ii)** an oil pump,
  - (iii)** a float assembly, and
  - (iv)** a vane assembly, in the case of a chiller with a single-stage compressor; or
- (c)** any procedure or repair that resulted from the failure of an evaporator or a condenser heat-exchanger tube.

**15** Il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système de climatisation conçu pour les occupants d'un véhicule automobile.

**16** À compter du quatre-vingt-dixième jour suivant l'entrée en vigueur du présent règlement, il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système de réfrigération qui est installé dans un moyen de transport, est fixé à celui-ci ou est normalement utilisé avec lui, exception faite du système de réfrigération utilisé dans un navire militaire et d'un refroidisseur.

DORS/2009-221, art. 4.

**17** À compter du 1<sup>er</sup> janvier 2005, il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans les systèmes suivant :

- a)** un système de réfrigération, exception faite de celui utilisé dans un navire militaire, d'un petit système de réfrigération et d'un refroidisseur;
- b)** un système de climatisation, exception faite de celui utilisé dans un navire militaire, d'un petit système de climatisation et d'un refroidisseur;

**18 (1)** Sous réserve du paragraphe (2), à compter du 1<sup>er</sup> janvier 2005, il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un refroidisseur, exception faite de celui utilisé dans un navire militaire, qui a fait l'objet d'une révision générale exigeant l'une ou l'autre des opérations ou réparations suivantes :

- a)** le remplacement ou la modification d'un dispositif d'étanchéité interne;
- b)** le remplacement ou la modification d'une pièce mécanique interne quelconque, sauf une des pièces suivantes :
  - (i)** le réchauffeur d'huile,
  - (ii)** la pompe à huile,
  - (iii)** l'ensemble de flotte,
  - (iv)** l'ensemble d'aubages pour les refroidisseurs munis de compresseurs à un étage;
- c)** la correction d'une défectuosité d'un tube de l'échangeur de chaleur dans l'évaporateur ou le condenseur.

**(2)** From January 1, 2005 to December 31, 2009, an owner of a chiller referred to in subsection (1) may charge the chiller with a halocarbon listed in any of items 1 to 9 of Schedule 1 but no person shall operate that chiller later than one year after the day on which it was charged, unless it no longer contains any halocarbon listed in any of those items.

**(3)** The owner of a chiller charged under subsection (2) shall provide written notice to the Minister within 14 days after the chiller is charged, which notice shall contain the information set out in column 3 of item 3 of Schedule 2.

**19** Effective January 1, 2010, no person shall charge a refrigeration or an air-conditioning system for use on a military ship with a halocarbon listed in any of items 1 to 9 of Schedule 1

**20** Effective January 1, 2015, no person shall operate or permit the operation of any chiller that contains a halocarbon listed in any of items 1 to 9 of Schedule 1.

**21** No person shall install or operate or permit the operation of a purge system unless it emits less than 0.1 kg of halocarbons per kilogram of air purged to the environment.

## Fire-Extinguishing Systems

**22 (1)** Except in accordance with the standards set out in the publication ULC/ORD-C1058.18-2004, of the Underwriters' Laboratories of Canada, entitled *The Servicing of Halon and Clean Agent Extinguishing Systems*, no person shall install, service, leak-test or charge a fire-extinguishing system, or do any other work on the system that may result in the release of a halocarbon.

**(2)** The reference to the publication in subsection (1) shall be read as excluding its preface.

SOR/2009-221, s. 5.

**23** No person shall charge a fire-extinguishing system with a halocarbon listed in any of items 1 to 9 of Schedule 1 for the purpose of leak-testing the system.

**24 (1)** Every owner of a fire-extinguishing system shall leak-test the system at least once every 12 months in accordance with the standards set out in the publication referred to in subsection 22(1).

**(2)** Du 1<sup>er</sup> janvier 2005 au 31 décembre 2009, le propriétaire d'un refroidisseur visé au paragraphe (1) peut y charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1, auquel cas il est interdit de faire fonctionner le refroidisseur après un an suivant le jour de son chargement à moins qu'il ne contienne plus cet halocarbure.

**(3)** Le propriétaire d'un refroidisseur chargé en vertu du paragraphe (2) fournit au ministre un avis écrit comportant les renseignements prévus à la colonne 3 de l'article 3 de l'annexe 2 dans les quatorze jours suivant le chargement.

**19** À compter du 1<sup>er</sup> janvier 2010, il est interdit de charger d'un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 un système de réfrigération ou de climatisation utilisé dans un navire militaire.

**20** À compter du 1<sup>er</sup> janvier 2015, il est interdit de faire fonctionner un refroidisseur qui contient un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 ou d'en permettre le fonctionnement.

**21** Il est interdit d'installer ou de faire fonctionner un système à vidange, ou d'en permettre le fonctionnement, à moins qu'il émette moins de 0,1 kg d'halocarbure par kilogramme d'air vidangé dans l'environnement.

## Système d'extinction d'incendie

**22 (1)** Il est interdit d'installer, d'entretenir ou de charger un système d'extinction d'incendie, d'effectuer des essais de détection des fuites ou d'exécuter tout autre travail sur lui pouvant entraîner le rejet d'un halocarbure, sauf en conformité avec les normes énoncées dans la publication ULC/ADR-C1058.18-2004 des Laboratoires des assureurs du Canada intitulée *Entretien des systèmes d'extinction au halon et aux agents propres*.

**(2)** La publication visée au paragraphe (1) doit être interprétée sans tenir compte de sa préface.

DORS/2009-221, art. 5.

**23** Il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système d'extinction d'incendie pour effectuer des essais de détection des fuites.

**24 (1)** Le propriétaire d'un système d'extinction d'incendie effectuée, au moins une fois tous les douze mois, un essai de détection des fuites sur le système conformément aux normes énoncées dans le document mentionné à l'article 22.

**(2)** Subsection (1) does not apply to fire-extinguishing systems whose cylinder or cartridge has a charging capacity of 10 kg or less and that are located in military vehicles, military ships or military aircraft, or to portable fire extinguishers.

**25** Subject to section 28, no person shall charge a fire-extinguishing system unless, before charging it,

- (a)** the system is leak-tested; and
- (b)** if a leak is detected, the person who conducts the test notifies the owner and the owner repairs the leak.

**26 (1)** Subject to subsection (2) and section 28, no person shall service a fire-extinguishing system without first

- (a)** notifying the owner of the intended service; and
- (b)** affixing a notice to the control panel of the system to indicate that it is out of operation during the period of service.

**(2)** Paragraph (1)(b) does not apply to portable fire extinguishers.

**27** As soon as possible after a leak from a fire-extinguishing system is detected, and in any case within seven days after the day on which the leak is detected, the owner of the system shall

- (a)** repair the leak;
- (b)** isolate the leaking portion of the system and recover the halocarbon from that portion; or
- (c)** recover the halocarbon from the system.

**28 (1)** If a leak is detected from a fire-extinguishing system and it is necessary to charge the system to prevent an immediate danger to human life or health, sections 25 and 26 do not apply to the system during the period in which the danger persists, up to a maximum of seven days after the day on which the leak is detected.

**(2)** If a fire-extinguishing system is charged under the circumstances described in subsection (1),

- (a)** the person who charged the system shall immediately notify its owner of the charge; and

**(2)** Le paragraphe (1) ne s'applique pas aux systèmes dont la bonbonne ou la cartouche a une capacité de charge d'au plus 10 kg et qui sont installés dans les navires, les véhicules ou les aéronefs militaires, ni aux extincteurs portatifs.

**25** Sous réserve de l'article 28, il est interdit de charger un système d'extinction d'incendie à moins que, préalablement :

- a)** le système n'ait été soumis à un essai de détection des fuites;
- b)** s'il existe une fuite, la personne qui a effectué l'essai n'en ait avisé le propriétaire et que celui-ci ne l'ait réparé.

**26 (1)** Sous réserve du paragraphe (2) et de l'article 28, il est interdit d'entretenir un système d'extinction d'incendie sans avoir au préalable :

- a)** avisé le propriétaire de l'entretien prévu;
- b)** apposé un avis sur le panneau de commande du système pour indiquer qu'il sera hors service pendant la période d'entretien.

**(2)** L'alinéa (1)b) ne s'applique pas aux extincteurs portatifs.

**27** Le propriétaire d'un système d'extinction d'incendie doit, dès que possible après la détection de la fuite, mais au plus tard sept jours suivant la date de détection :

- a)** soit réparer la fuite;
- b)** soit isoler la partie du système qui fuit et récupérer l'halocarbure qui en provient;
- c)** soit récupérer l'halocarbure provenant du système.

**28 (1)** Si un système d'extinction d'incendie présente une fuite et qu'il apparaît nécessaire de le charger pour prévenir un danger immédiat pour la vie ou la santé humaines, l'application des articles 25 et 26 est suspendue tant que le danger persiste, jusqu'à concurrence de sept jours suivant la date de détection de la fuite.

**(2)** Si le système est chargé dans la situation visée au paragraphe (1), les règles suivantes s'appliquent :

- a)** la personne qui l'a chargé en avise le propriétaire sans délai;

**(b)** the owner shall, within seven days after receiving notice under paragraph (a), submit a written record to the Minister describing

- (i)** the nature of the immediate danger to human life or health and the circumstances that justify charging the system in order to prevent the danger,
- (ii)** the amount of halocarbon charged to the system, and
- (iii)** the date of repair of the leak or recovery of the remaining halocarbon from the system.

**29** No person shall charge a portable fire extinguisher, other than one for use on an aircraft, a military vehicle or a military ship, with a halocarbon listed in any of items 1 to 9 of Schedule 1, unless authorized to do so by a permit issued under these Regulations.

**30 (1)** Subject to subsection (2), effective January 1, 2005, no person shall charge a fire-extinguishing system, other than a portable fire extinguisher or a fire-extinguishing system for use on an aircraft, a military vehicle or a military ship, with a halocarbon listed in any of items 1 to 9 of Schedule 1, unless authorized to do so by a permit issued under these Regulations.

**(2)** From January 1, 2005 to December 31, 2009, an owner of a system referred to in subsection (1) may charge the system with a halocarbon listed in any of items 1 to 9 of Schedule 1 but no person shall operate that system later than one year after the day on which the system is charged, unless it no longer contains any halocarbon listed in any of those items.

**(3)** The owner of a system charged under subsection (2) shall provide written notice to the Minister within 14 days after the system is charged, which notice shall contain the information set out in column 3 of item 4 of Schedule 2.

SOR/2009-221, s. 6(F).

## Service Logs

**31 (1)** The owner of a refrigeration system, an air-conditioning system or a fire-extinguishing system shall maintain a written record, or a record in an electronic format compatible with that used by the Minister, in which the information set out in column 3 of item 5 or 6, as the case may be, of Schedule 2 is entered whenever the system is installed, serviced, leak-tested or charged or if

**b)** dans les sept jours suivant la réception de l'avis, le propriétaire présente au ministre un compte rendu écrit indiquant :

- (i)** la nature du danger immédiat pour la vie ou la santé humaines et les circonstances qui justifient le chargement pour prévenir le danger,
- (ii)** la quantité d'halocarbure chargée dans le système,
- (iii)** la date de la réparation de la fuite ou de la récupération de l'halocarbure restant dans le système.

**29** Il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un extincteur portatif — exception faite de celui utilisé dans un navire ou un véhicule militaires ou dans un aéronef — à moins d'y être autorisé par un permis délivré au titre du présent règlement.

**30 (1)** Sous réserve du paragraphe (2), à compter du 1<sup>er</sup> janvier 2005, il est interdit de charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système d'extinction d'incendie — exception faite de celui utilisé dans un navire ou un véhicule militaires ou dans un aéronef, et d'un extincteur portatif — à moins d'y être autorisé par un permis délivré au titre du présent règlement.

**(2)** Du 1<sup>er</sup> janvier 2005 au 31 décembre 2009, le propriétaire d'un système visé au paragraphe (1) peut y charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1, auquel cas il est interdit de faire fonctionner le système après un an suivant le jour de son chargement à moins qu'il ne contienne plus un tel halocarbure.

**(3)** Le propriétaire d'un système visé au paragraphe (2) fournit au ministre un avis écrit comportant les renseignements prévus à la colonne 3 de l'article 4 de l'annexe 2 dans les quatorze jours suivant le chargement.

DORS/2009-221, art. 6(F).

## Registre d'entretien

**31 (1)** Le propriétaire d'un système de réfrigération, de climatisation ou d'extinction d'incendie enregistre, sur un support papier — ou sur un support électronique compatible avec celui utilisé par le ministre — les renseignements prévus à la colonne 3 des articles 5 ou 6 de l'annexe 2, selon le cas, au moment de l'installation du système et chaque fois qu'il est entretenu ou chargé ou que sont effectués sur lui des essais de détection des fuites ou

any other work is done on it that may result in the release of a halocarbon.

**(2)** The owner of a solvent system shall maintain a written record, or a record in an electronic format compatible with that used by the Minister, in which the information set out in column 3 of item 7 of Schedule 2 is entered whenever the system is charged with more than 10 kg of a halocarbon.

## Release Reports

**32** In the event of a release of 100 kg or more of a halocarbon from a system, or from a container or equipment used in the reuse, recycling, reclamation or storage of a halocarbon, the owner of the system, container or equipment shall submit the following reports to the Minister, within the periods indicated:

**(a)** within 24 hours after the release is detected, a verbal or written report, or a report in an electronic format compatible with that used by the Minister, that indicates the name of the owner, the type of halocarbon released and the type of system, container or equipment from which it was released; and

**(b)** within 14 days after the release is detected, a written report, or a report in an electronic format compatible with that used by the Minister, containing the information set out in column 3 of item 8 of Schedule 2.

**33 (1)** In the event of a release of more than 10 kg but less than 100 kg of a halocarbon from a system, or from a container or equipment used in the reuse, recycling, reclamation or storage of a halocarbon, the owner of the system, container or equipment shall submit to the Minister a report in written format, or in an electronic format compatible with that used by the Minister, that contains the information set out in column 3 of item 8 of Schedule 2.

**(2)** The owner shall submit the release report required by subsection (1) twice annually, not later than 30 days after January 1 and July 1.

## Permits

**34 (1)** If no technically and financially feasible alternative to the use of a halocarbon listed in any of items 1 to 9, 11 or 12 of Schedule I, as the case may be, exists that could have a less harmful impact on the environment and on health, an owner shall submit to the Minister an application for a permit on a form that the Minister provides, and that contains the information set out in col-

tout autre travail pouvant entraîner le rejet d'un halocarbure.

**(2)** Le propriétaire d'un système de solvants enregistre, sur un support papier — ou sur un support électronique compatible avec celui utilisé par le ministre — les renseignements prévus à la colonne 3 de l'article 7 de l'annexe 2 chaque fois que plus de 10 kg d'halocarbure est chargé dans le système.

## Rapport sur le rejet

**32** En cas de rejet de 100 kg ou plus d'halocarbure d'un système ou d'un contenant ou matériel servant à la réutilisation, au recyclage, à la régénération ou à l'entreposage d'un halocarbure, le propriétaire du système, du contenant ou du matériel présente au ministre, dans les délais indiqués, les rapports suivants :

**a)** dans les vingt-quatre heures suivant la détection du rejet, un rapport verbal ou écrit — ou un rapport sur un support électronique compatible avec celui utilisé par le ministre — indiquant le nom du propriétaire, le type d'halocarbure rejeté ainsi que le type de système, de contenant ou de matériel en cause;

**b)** dans les quatorze jours suivant la détection du rejet, un rapport écrit — ou un rapport sur un support électronique compatible avec celui utilisé par le ministre — qui comporte les renseignements prévus à la colonne 3 de l'article 8 de l'annexe 2.

**33 (1)** En cas de rejet de plus de 10 kg mais de moins de 100 kg d'halocarbure d'un système ou d'un contenant ou matériel servant à la réutilisation, au recyclage, à la régénération ou à l'entreposage d'un halocarbure, le propriétaire du système, du contenant ou du matériel présente au ministre un rapport écrit — ou un rapport sur un support électronique compatible avec celui utilisé par le ministre — qui comporte les renseignements prévus à la colonne 3 de l'article 8 de l'annexe 2.

**(2)** Le rapport est présenté deux fois par année dans les trente jours suivant le 1<sup>er</sup> janvier et le 1<sup>er</sup> juillet.

## Permis

**34 (1)** S'il n'existe aucune autre solution réalisable sur les plans technique et financier qui pourrait avoir, sur l'environnement et la santé, un impact moins nocif que l'utilisation d'un halocarbure figurant à l'un des articles 1 à 9 ou 11 et 12 de l'annexe 1, selon le cas, le propriétaire présente au ministre, sur un formulaire fourni par celui-ci, une demande de permis comportant les renseigne-



umn 3 of item 9 or 10, as the case may be, of Schedule 2, if the owner proposes to

**(a)** install a fire-extinguishing system that operates or is intended to operate with a halocarbon listed in any of items 1 to 9 of Schedule 1 as a fire-extinguishing agent;

**(b)** charge a portable fire extinguisher that is not to be used on an aircraft, military ship or military vehicle with a halocarbon listed in any of items 1 to 9 of Schedule 1; or

**(c)** effective January 1, 2005

**(i)** charge a fire-extinguishing system, other than a portable fire-extinguishing system, that is not to be used on an aircraft, military ship or military vehicle with a halocarbon listed in any of items 1 to 9 of Schedule 1,

**(ii)** install a solvent system that operates or is intended to operate with a halocarbon listed in item 11 or 12 of Schedule 1, or

**(iii)** use a halocarbon listed in item 11 or 12 of Schedule 1 as a solvent in a solvent system.

**(2)** Unless the Minister has received notice under subsection 30(3) in respect of the same system, the Minister shall issue the permit in respect of the system, valid for one year beginning on the date of issuance, if the owner, on the form,

**(a)** declares that no technically and financially feasible alternative to the use of a halocarbon listed in any of items 1 to 9, 11 or 12 of Schedule 1, as the case may be, exists that could have a less harmful impact on the environment and on health; and

**(b)** provides information in support of the declaration.

**35 (1)** The Minister may refuse to issue a permit under subsection 34(2) or may cancel a permit issued under that subsection if any false or misleading information has been submitted in support of the application for the permit.

**(2)** The Minister shall not cancel a permit unless the Minister

**(a)** has provided the permit holder with written reasons for the cancellation; and

ments prévus à la colonne 3 des articles 9 ou 10 de l'annexe 2, selon le cas, s'il prévoit :

**a)** installer un système d'extinction d'incendie fonctionnant ou conçu pour fonctionner avec un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 comme agent extincteur;

**b)** charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un extincteur portatif, à l'exception de celui qui est utilisé dans un navire ou un véhicule militaires ou dans un aéronef;

**c)** le 1<sup>er</sup> janvier 2005 ou après cette date :

**(i)** charger un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système d'extinction d'incendie, exception faite de celui qui est utilisé dans un navire ou un véhicule militaires ou dans un aéronef, et d'un extincteur portatif,

**(ii)** installer un système de solvants fonctionnant ou conçu pour fonctionner avec un halocarbure figurant aux articles 11 ou 12 de l'annexe 1;

**(iii)** utiliser un halocarbure figurant aux articles 11 ou 12 de l'annexe 1 comme solvant dans un système de solvants.

**(2)** À moins que le ministre ait déjà reçu l'avis visé au paragraphe 30(3) pour le même système, le ministre délivre le permis à l'égard de celui-ci, pour une durée d'un an à compter de la date de sa délivrance, si le propriétaire, sur le formulaire :

**a)** déclare qu'il n'existe aucune autre solution réalisable sur les plans technique et financier qui pourrait avoir, sur l'environnement et la santé, un impact moins nocif que l'utilisation d'un halocarbure figurant à l'un des articles 1 à 9 ou 11 ou 12 de l'annexe 1, selon le cas;

**b)** fournit des renseignements à l'appui de sa déclaration.

**35 (1)** Le ministre peut refuser de délivrer un permis en vertu du paragraphe 34(2) ou peut annuler un permis délivré en vertu de ce paragraphe si des renseignements faux ou trompeurs ont été donnés à l'appui de la demande de permis.

**(2)** Le ministre ne peut annuler le permis que s'il :

**a)** a avisé par écrit le titulaire du permis des motifs de l'annulation;

**(b)** has given the permit holder an opportunity to make representations, either verbally or in writing, in respect of the cancellation.

**b)** lui a donné la possibilité de formuler, oralement ou par écrit, ses observations à cet égard.

## Logs, Notices, Records and Reports

## Avis, comptes rendus, documents, rapports et registres

**36 (1)** Owners shall keep all logs, notices, records and reports required by these Regulations in Canada for a period of at least five years after the date that they are prepared or submitted, respectively.

**36 (1)** Le propriétaire conserve les avis, comptes rendus, documents, rapports et registres exigés par le présent règlement au Canada pendant au moins cinq ans suivant la date de leur établissement ou de leur présentation, selon le cas.

**(2)** Subject to subsections (3) and (4), owners shall keep a copy of all logs, notices, records and reports required by these Regulations with respect to a system at the premises or site at which the system is located.

**(2)** Sous réserve des paragraphes (3) et (4), un exemplaire des avis, comptes rendus, documents, rapports et registres est conservé dans le lieu où se trouve le système visé.

**(3)** In the case of a system located on a means of transportation, the owner shall keep a copy of all logs, notices, records and reports required by these Regulations with respect to that system at a single location occupied by the owner.

**(3)** Un exemplaire des avis, comptes rendus, documents, rapports et registres afférents à tout système se trouvant dans un moyen de transport est conservé dans un même et unique lieu occupé par le propriétaire.

**(4)** In the case of a system located on unoccupied premises or an unoccupied site, the owner shall

**(4)** Dans le cas d'un système situé dans un lieu inoccupé, le propriétaire :

**(a)** keep a copy of all logs, notices, records and reports required by these Regulations in respect of that system at a single location that is occupied by the owner;

**a)** conserve, dans un même et unique lieu occupé par lui, une copie des avis, comptes rendus, documents, rapports et registres afférents au système et exigés par le présent règlement;

**(b)** submit a report containing the information set out in column 3 of item 11 of Schedule 2 to the Minister no later than January 1, 2004; and

**b)** présente au ministre un rapport comportant les renseignements prévus à la colonne 3 de l'article 11 de l'annexe 2 au plus tard le 1<sup>er</sup> janvier 2004;

**(c)** submit any change in the information required under paragraph (b) to the Minister within 30 days after the change.

**c)** présente au ministre tout changement aux renseignements visés à l'alinéa b) dans les trente jours du changement.

SOR/2009-221, s. 7(F).

DORS/2009-221, art. 7(F).

## Repeal

## Abrogation

**37** [Repeal]

**37** [Abrogation]

## Coming into Force

## Entrée en vigueur

**38** These Regulations come into force on the day on which they are registered.

**38** Le présent règlement entre en vigueur à la date de son enregistrement.

## SCHEDULE 1

(Sections 1, 4 and 5, subsection 9(3) and sections 15 to 20, 23, 29, 30 and 34)

### LIST OF HALOCARBONS

Item	Halocarbon
1.	Tetrachloromethane (carbon tetrachloride)
2.	1,1,1-trichloroethane (methyl chloroform), not including 1,1,2-trichloroethane
3.	Chlorofluorocarbons (CFC)
4.	Bromochlorodifluoromethane (Halon 1211)
5.	Bromotrifluoromethane (Halon 1301)
6.	Dibromotetrafluoroethane (Halon 2402)
7.	Bromofluorocarbons other than those set out in items 4 to 6
8.	Bromochloromethane (Halon 1011)
9.	Hydrobromofluorocarbons (HBFC)
10.	Hydrochlorofluorocarbons (HCFC)
11.	Hydrofluorocarbons (HFC)
12.	Perfluorocarbons (PFC)

## ANNEXE 1

(articles 1, 4 et 5, paragraphe 9(3) et articles 15 à 20, 23, 29, 30 et 34)

### LISTE DES HALOCARBURES

Article	Halocarbure
1.	Tétrachlorométhane (tétrachlorure de carbone)
2.	1,1,1-trichloroéthane (méthylchloroforme), sauf le 1,1,2-trichloroéthane
3.	Chlorofluorocarbures (CFC)
4.	Bromochlorodifluorométhane (Halon 1211)
5.	Bromotrifluorométhane (Halon 1301)
6.	Dibromotétrafluoroéthane (Halon 2402)
7.	Bromofluorocarbures autres que ceux prévus aux articles 4 à 6
8.	Bromochlorométhane (Halon 1011)
9.	Hydrobromofluorocarbures (HBFC)
10.	Hydrochlorofluorocarbures (HCFC)
11.	Hydrofluorocarbures (HFC)
12.	Perfluorocarbures (PFC)

## SCHEDULE 2

(Subsections 8(2), 10(1), 18(3), 30(3), section 31, paragraph 32(b), subsections 33(1) and 34(1) and paragraph 36(4)(b))

### INFORMATION TO BE CONTAINED IN DOCUMENT

Item	Column 1 Provision of Regulation	Column 2 Type of Document	Column 3 Information to be Contained on Form
1.	8(2)	Dismantling, Decommissioning or Destruction Notice for a System	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system before its Dismantling, Decommissioning or Destruction</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> name of service technician who recovered halocarbons</p> <p><b>(f)</b> certificate number of service technician (if applicable)</p> <p><b>(g)</b> name of employer of service technician (if applicable)</p> <p><b>(h)</b> type and quantity of halocarbon and date recovered</p> <p><b>(i)</b> type and charging capacity of system</p> <p><b>(j)</b> final destination of system</p>
2.	10(1)	Leak Test Notice for Refrigeration System and Air-Conditioning System	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> name of certified person</p> <p><b>(f)</b> certificate number</p> <p><b>(g)</b> name of employer of certified person (if applicable)</p> <p><b>(h)</b> type of halocarbon contained in system</p> <p><b>(i)</b> charging capacity of system</p> <p><b>(j)</b> date of last two leak tests performed on system</p>

## ANNEXE 2

(paragraphe 8(2), 10(1), 18(3) et 30(3), article 31, alinéa 32b), paragraphes 33(1) et 34(1) et alinéa 36(4)(b))

### RENSEIGNEMENTS DEVANT FIGURER SUR LES FORMULAIRES

Article	Colonne 1 Disposition du règlement	Colonne 2 Nature du document	Colonne 3 Renseignements à fournir
1.	8(2)	Avis de destruction, de désassemblage ou de mise hors service d'un système	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système avant la destruction, le désassemblage ou la mise hors service</p> <p><b>d)</b> description du système</p> <p><b>e)</b> nom du technicien d'entretien qui a récupéré les halocarbures</p> <p><b>f)</b> numéro de certificat du technicien (s'il y a lieu)</p> <p><b>g)</b> nom de l'employeur du technicien (s'il y a lieu)</p> <p><b>h)</b> type et quantité d'halocarbure récupéré, et date de la récupération</p> <p><b>i)</b> type de système et capacité de charge</p> <p><b>j)</b> destination finale du système</p>

Item	Column 1 Provision of Regulation	Column 2 Type of Document	Column 3 Information to be Contained on Form
3.	18(3)	Notice of Charging of a Chiller that has Undergone an Overhaul with a Halocarbon Listed in any of items 1 to 9 of Schedule 1	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> type and quantity of halocarbon charged</p> <p><b>(f)</b> date of charge</p> <p><b>(g)</b> charging capacity of system</p>
4.	30(3)	Notice of Charging of a Fire-Extinguishing System with a Halocarbon Listed in Items 1-9 of Schedule 1	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> type and quantity of halocarbon charged</p> <p><b>(f)</b> date of charge</p> <p><b>(g)</b> charging capacity of system</p>
5.	31(1)	Refrigeration System or Air-Conditioning System Service Log	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> name of certified person</p> <p><b>(f)</b> certificate number</p> <p><b>(g)</b> name of employer of certified person (if applicable)</p> <p><b>(h)</b> dated list of leak tests, leaks detected and leak repairs</p> <p><b>(i)</b> type and quantity of halocarbon and date recovered</p> <p><b>(j)</b> charging capacity of system</p>

Article	Colonne 1 Disposition du règlement	Colonne 2 Nature du document	Colonne 3 Renseignements à fournir
2.	10(1)	Avis d'essais de détection des fuites pour les systèmes de réfrigération et de climatisation	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> nom de la personne accréditée</p> <p><b>f)</b> numéro de certificat</p> <p><b>g)</b> nom de l'employeur de la personne accréditée (s'il y a lieu)</p> <p><b>h)</b> type d'halocarbure contenu dans le système</p> <p><b>i)</b> capacité de charge du système</p> <p><b>j)</b> date des deux derniers essais de détection des fuites</p>
3.	18(3)	Avis de chargement d'un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un refroidisseur à la suite d'une révision générale	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> type et quantité d'halocarbure chargé</p> <p><b>f)</b> date du chargement</p> <p><b>g)</b> capacité de charge du système</p>
4.	30(3)	Avis de chargement d'un halocarbure figurant à l'un des articles 1 à 9 de l'annexe 1 dans un système d'extinction d'incendie	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> type et quantité d'halocarbure chargé</p> <p><b>f)</b> date du chargement</p> <p><b>g)</b> capacité de charge du système</p>

Item	Column 1 Provision of Regulation	Column 2 Type of Document	Column 3 Information to be Contained on Form
6.	31(1)	Fire-Extinguishing System Service Log	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> name of service technician</p> <p><b>(f)</b> certificate number of service technician (if applicable)</p> <p><b>(g)</b> name of employer of service technician (if applicable)</p> <p><b>(h)</b> dated list of leak tests, leaks detected and leak repairs</p> <p><b>(i)</b> type and quantity of halocarbon and date recovered</p> <p><b>(j)</b> charging capacity of system</p>
7.	31(2)	Solvent System Service Log	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> name of operator of system</p> <p><b>(c)</b> specific location of system</p> <p><b>(d)</b> description of system</p> <p><b>(e)</b> name of service technician</p> <p><b>(f)</b> certificate number of service technician (if applicable)</p> <p><b>(g)</b> name of employer of service technician (if applicable)</p> <p><b>(h)</b> type and quantity of halocarbon and date charged to system</p> <p><b>(i)</b> charging capacity of system</p>

Article	Colonne 1 Disposition du règlement	Colonne 2 Nature du document	Colonne 3 Renseignements à fournir
5.	31(1)	Registre d'entretien d'un système de réfrigération ou de climatisation	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> nom de la personne accréditée</p> <p><b>f)</b> numéro de certificat</p> <p><b>g)</b> nom de l'employeur de la personne accréditée (s'il y a lieu)</p> <p><b>h)</b> liste datée des essais de détection, des fuites détectées et de leur réparation</p> <p><b>i)</b> type et quantité d'halocarbure récupéré, et date de la récupération</p> <p><b>j)</b> capacité de charge du système</p>
6.	31(1)	Registre d'entretien d'un système d'extinction d'incendie	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> nom du technicien d'entretien</p> <p><b>f)</b> numéro de certificat du technicien (s'il y a lieu)</p> <p><b>g)</b> nom de l'employeur du technicien (s'il y a lieu)</p> <p><b>h)</b> liste datée des essais de détection, des fuites détectées et de leur réparation</p> <p><b>i)</b> type et quantité d'halocarbure récupéré, et date de la récupération</p> <p><b>j)</b> capacité de charge du système</p>

Item	Column 1 Provision of Regulation	Column 2 Type of Document	Column 3 Information to be Contained on Form
8.	32(b) and 33(1)	Halocarbon Release Report	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> type and quantity of halocarbon released</p> <p><b>(c)</b> date of release</p> <p><b>(d)</b> type and description of system</p> <p><b>(e)</b> circumstances leading to the release, corrective action and actions to prevent subsequent releases</p>
9.	34(1)	Request for a Permit to Install a Fire-Extinguishing System or Solvent System	<p><b>(a)</b> name and address of applicant</p> <p><b>(b)</b> type and quantity of halocarbon</p> <p><b>(c)</b> charging capacity of system</p> <p><b>(d)</b> request for confidentiality under subsection 313(1) of Act</p> <p><b>(e)</b> declaration referred to in subsection 34(2) and supporting information</p>
10.	34(1)	Request for a Permit to Charge a Fire-Extinguishing System or Solvent System with a Halocarbon Listed in items 1 to 9, 11 or 12, as the case may be, of Schedule I	<p><b>(a)</b> name and address of applicant</p> <p><b>(b)</b> type and quantity of halocarbon</p> <p><b>(c)</b> charging capacity of system</p> <p><b>(d)</b> request for confidentiality under subsection 313(1) of Act</p> <p><b>(e)</b> declaration referred to in subsection 34(2) and supporting information</p>
11.	36(4)(b)	Report for Systems at Unoccupied Premises or an Unoccupied Site	<p><b>(a)</b> name and address of owner of system</p> <p><b>(b)</b> street address of unoccupied premises or unoccupied site</p> <p><b>(c)</b> street address of location of records, reports and notices referred to in paragraph 36(4)(a)</p>

Article	Colonne 1 Disposition du règlement	Colonne 2 Nature du document	Colonne 3 Renseignements à fournir
7.	31(2)	Registre d'entretien d'un système de solvants	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> nom de l'opérateur du système</p> <p><b>c)</b> emplacement précis du système</p> <p><b>d)</b> description du système</p> <p><b>e)</b> nom du technicien d'entretien</p> <p><b>f)</b> numéro de certificat du technicien (s'il y a lieu)</p> <p><b>g)</b> nom de l'employeur du technicien (s'il y a lieu)</p> <p><b>h)</b> type et quantité d'halocarbure chargé, et date du chargement</p> <p><b>i)</b> capacité de charge du système</p>
8.	32b) et 33(1)	Rapport sur les rejets d'halocarbures	<p><b>a)</b> nom et adresse du propriétaire du système</p> <p><b>b)</b> type et quantité d'halocarbure rejeté</p> <p><b>c)</b> date du rejet</p> <p><b>d)</b> type et description du système</p> <p><b>e)</b> circonstances ayant mené au rejet et mesures correctives et préventives qui seront prises</p>
9.	34(1)	Demande de permis pour installer un système d'extinction d'incendie ou un système de solvants	<p><b>a)</b> nom et adresse du demandeur</p> <p><b>b)</b> type d'halocarbure et quantité</p> <p><b>c)</b> capacité de charge du système</p> <p><b>d)</b> demande de confidentialité prévue au paragraphe 313(1) de la Loi</p> <p><b>e)</b> déclaration visée au paragraphe 34(2) et renseignements à l'appui</p>

	Colonne 1	Colonne 2	Colonne 3
	Disposition du règlement	Nature du document	Renseignements à fournir
10.	34(1)	Demande de permis pour charger un halocarbure figurant à l'un des articles 1 à 9 ou 11 ou 12 de l'annexe 1, selon le cas, dans un système d'extinction d'incendie ou un système de solvants	<p><b>a)</b> nom et adresse du demandeur</p> <p><b>b)</b> type d'halocarbure et quantité</p> <p><b>c)</b> capacité de charge du système</p> <p><b>d)</b> demande de confidentialité prévue au paragraphe 313(1) de la Loi</p> <p><b>e)</b> déclaration visée au paragraphe 34(2) et renseignements à l'appui</p>
11.	36(4)b)	Rapport pour un système situé dans un lieu inoccupé	<p><b>a)</b> nom et adresse du propriétaire</p> <p><b>b)</b> adresse municipale du lieu inoccupé</p> <p><b>c)</b> adresse municipale du lieu où se trouvent les documents visés à l'alinéa 36(4)a)</p>

SOR/2009-221, ss. 8(F), 9(F).

DORS/2009-221, art. 8(F) et 9(F).