

NRC-CMRC

*Administrative
Services
and Property
Management*

CMRC-NRC

*Services
administratifs
et gestion de
l'immobilier*

SPECIFICATION

SOLICITATION #: 14-22101

BUILDING: M-12
1200 Montreal Road
Ottawa, ON

PROJECT: M-12 Modernization of Passenger Elevator

PROJECT #: M12-4065

Date: December 2014



National Research
Council Canada

Conseil national
de recherches Canada

Canada

SPECIFICATION

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National Research Council Conseil national de recherches
Canada Canada

Administrative Services Direction des services
& Property management administratif et gestion
Branch (ASPM) de l'immobilier (SAGI)

Construction Tender Form

Project Identification **M-12 Modernization of Passenger Elevator**

Tender No.: **14-22101**

1.2 **Business Name and Address of Tenderer**

Name _____

Address _____

Contact Person(Print Name) _____

Telephone () _____ **Fax:** () _____

1.3 **Offer**

I/We the Tenderer, hereby offer to Her Majesty the Queen in Right of Canada (hereinafter referred to as "Her Majesty") represented by the National Research Council Canada to perform and complete the work for the above named project in accordance with the Plans and Specifications and other Tender Documents, at the place and in the manner set out therein for the Total Tender Amount (to be expressed in numbers only) of: \$ _____ . _____ **in lawful money of Canada (excluding GST/HST)**

The above amount is inclusive of all applicable (*) Federal, Provincial and Municipal taxes except that in the event of a change in any tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property, that occurs

- .1 after the date this tender was mailed or delivered, or
- .2 if this tender is revised, after the date of the last revision

the amount of this offer shall be decreased or decreased in the manner provided for in GC22 of the General Conditions of the Contract Documents.

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1.3.1 **Offer** (continued)

(*) For the purpose of this tender, the Goods and Services Tax (GST) is not to be considered as an applicable tax.

In the province of Quebec, the Quebec Sales Tax is not to be included in the tender amount because the Federal Government is exempt from this tax. Tenderers shall make arrangements directly with the provincial Revenue Department to recover any tax they may pay on good and services acquired in the performance of this contract. However, tenderers should include in their tender amount Quebec Sales Tax for which an Input Tax Refund is not available.

1.4 **Acceptance and Entry into Contract**

I/We undertake, within fourteen (14) days of notification of acceptance of my/our offer, to sign a contract for the performance of the work provided I/we are notified, by the Department, of the acceptance of my/our offer within 30 days of the tender closing date.

1.5 **Construction Time**

I/We Agree to complete the work within the time stipulated in the specification from the date of notification of acceptance of my/our offer.

1.6 **Bid Security**

I/We herewith enclose tender security in accordance with Article 5 of the General Instruction to Tenderers.

I/We understand that if a security deposit is furnished as tender security and if I/we refuse to enter into a contract when called upon to do so, my/our security deposit shall be forfeited but the Minister may, if it is in the public interest, waive the right of Her Majesty to forfeit the security deposit.

I/We understand that if the security furnished is not in the approved form as described in Article 5 of the General Instructions to Tenderers, my/our tender is subject to disqualification.

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1.7 Contract Security

Within fourteen (14) days after receipt of written notification of the acceptance of my/our offer, I/we will furnish contract security in accordance with the Contract Conditions "F" of the Contract Documents.

I/We understand that the contract security referred to herein, if provided in the form of a bill of exchange, will be deposited into the Consolidated Revenue Fund of Canada.

1.8 Appendices

This Tender Form includes Appendix No. ____N/A____.

1.9 Addenda

The Total Tender Amount provides for the Work described in the following Addenda:

NUMBER	DATE	NUMBER	DATE

(Tenderers shall enter numbers and dates of addenda)

National Research Council Canada	Conseil national de recherches Canada
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Administrative Services & Property management Branch (ASPM)	Direction des services administratif et gestion de l'immobilier (SAGI)
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1.10 Execution of Tender

The Tenderer shall refer to Article 2 of the General Instructions to Tenderers.

SIGNED, ATTESTED TO AND DELIVERED on the _____ day of
_____ on behalf of

(Type or print the business name of the Tenderer)

AUTHORIZED SIGNATORY (IES)

(Signature of Signatory)

(Print name & Title of Signatory)

(Signature of Signatory)

(Print name & Title of Signatory)

SEAL

BUYANDELL NOTICE

M-12 Modernization of Passenger Elevator

The National Research Council Canada, 1200 Montreal Road, Ottawa, ON has a requirement for a project that includes:

Work under this contract covers the modernization of the elevator located at the National Research Council, Montreal Road Campus, Building M12 No. 21147, Ottawa, Ontario.

1. GENERAL:

Questions regarding any aspect of the project are to be addressed to and answered only by the Departmental Representative (or his designate) or the Contracting Authority.

Any information received other than from the Departmental Representative (or his designate) or the Contracting Authority will be disregarded when awarding the contract and during construction.

Firms intending to submit tenders on this project should obtain tender documents through the Buyandsell.gc.ca TMA services provider. Addenda, when issued, will be available from the Buyandsell.gc.ca TMA service provider. Firms that elect to base their bids on tender documents obtained from other sources do so at their own risk and will be solely responsible to inform the tender calling authority of their intention to bid. Tender packages are not available for distribution on the actual day of tender closing.

2. MANDATORY SITE VISIT:

It is mandatory that the bidder attends one of the site visits at the designated date and time. At least one representative from proponents that intend to bid must attend.

The site visits will be held on January 20th and January 22nd, 2015 at **9:00**. Meet Charles Cossette at Building M-12, Main Entrance, 1200 Montreal Road, Ottawa, ON. Bidders who, for any reason, cannot attend at the specified date and time will not be given an alternative appointment to view the site and their tenders, therefore, will be considered as non-responsive. **NO EXCEPTIONS WILL BE MADE.**

As proof of attendance, at the site visit, the Contracting Authority will have an Attendance Form which **MUST** be signed by the bidder's representative. It is the responsibility of all bidders to ensure they have signed the Mandatory Site Visit Attendance form prior to leaving the site. Proposals submitted by bidders who have not attended the site visit or failed to sign the Attendance Form will be deemed non-responsive.

3. TENDER CLOSING DATE:

Tender closing date is February 5th, 2015 at 14:00.

4. TENDER RESULTS

Following the Tender closing, the tender results will be sent by facsimile to all Contractors who submitted a tender.

5. SECURITY REQUIREMENT FOR CANADIAN CONTRACTORS

5.1 MANDATORY SECURITY REQUIREMENT:

This procurement contains a mandatory security requirement as follows:

- .1 The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Director (CISD), Public Works Government Services Canada.
- .2 The Contractor personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
- .3 The Contractor must comply with the provisions of the:
 - a. Security Requirements Checklist attached at Appendix "D"
 - b. Industrial Security Manual (Latest Edition) available at: <http://ssi-iss.tpsgc-pwgsc.gc.ca/msi-ism/msi-ism-eng.html>

5.2 VERIFICATION OF SECURITY CLEARANCE AT BID CLOSING

- .1 The Bidder must hold a valid Designated Organization Screening (DOS) issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC), TO BE INCLUDED WITH THEIR TENDER OR PROVIDED WITHIN 48 HOURS FROM THE DATE AND TIME OF TENDER CLOSING. Verifications will be made through CISD to confirm the security clearance status of the Bidder. Failure to comply with this requirement will render the bid non-compliant and no further consideration will be given to the bid.
- .2 Within 72 hours of tender closing, the General Contractor must name all of his sub-contractors, each of whom must hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC, or any other Federal Department or Agency along with the names and birthdates or security clearance certificate numbers of all personnel who will be assigned to the project.
- .3 It is to be noted that any subcontractor required to perform any part of the work during the performance of the subsequent contract must also adhere to the mandatory security requirement of the contract. As well, no personnel without the required level of security will be allowed on site. It will be the responsibility of the successful bidder to ensure that the security requirement is met throughout the performance of the contract. The Crown will not be held liable or accountable for any delays or additional costs associated with the contractor's non-compliance to the mandatory security requirement. Failure to comply with the mandatory security requirement will be grounds for being declared in default of contract.
- .4 For any enquiries concerning the project security requirement during the bidding period, the Bidder/Tenderer must contact the Security Officer @ 613-993-8956.

6.0 WSIB (WORKPLACE SAFETY AND INSURANCE BOARD)

- .1 All Bidders must provide a valid WSIB certificate with their Tender or prior to contract award.

7.0 OFFICE OF THE PROCUREMENT OMBUDSMAN

.1 Dispute Resolution Services

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will, on request or consent of the parties to participate in an alternative dispute resolution process to resolve any dispute between the parties respecting the interpretation or application of a term and condition of this contract and their consent to bear the cost of such process, provide to the parties a proposal for an alternative dispute resolution process to resolve their dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.

.2 Contract Administration

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will review a complaint filed by [*the supplier or the contractor or the name of the entity awarded this contract*] respecting administration of this contract if the requirements of Subsection 22.2(1) of the *Department of Public Works and Government Services Act* and Sections 15 and 16 of the *Procurement Ombudsman Regulations* have been met, and the interpretation and application of the terms and conditions and the scope of the work of this contract are not in dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.

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

The Departmental Representative or his designate for this project is: **Charles Cossette**
Telephone: **613 991-4580**

Contracting Authority for this project is: **Marc Bédard** marc.bedard@nrc-cnrc.gc.ca
Telephone: **613 993-2274**

INSTRUCTIONS TO BIDDERS

Article 1 – Receipt of Tender

- 1a) Tenders must be received not later than the specified tender closing time. Tenders received after this time are invalid and shall not be considered, regardless of any reason for their late arrival.
- 1b) A letter of printed telecommunication from a bidder quoting a price shall not be considered as a valid tender unless a formal tender has been received on the prescribed Tender Form.
- 1c) Bidders may amend their tenders by letter or printed telecommunication provided that such amendments are received not later than the specified tender closing time.
- 1d) Any amendments to the tender which are transmitted by telefax must be signed and must clearly identify the tenderer.

All such amendments are to be addressed to:

National Research Council of Canada
Marc Bedard, Senior Contracting Officer
Building M-22
Montreal Road, Ottawa, Ontario
K1A 0R6

Fax: (613) 991-3297

Article 2 – Tender Form & Qualifications

- 1) All tenders must be submitted on the Construction Tender Form and the tender must be signed in compliance with the following requirements:
 - a) Limited Company: The full names of the Company and the name(s) and status of the authorized signing officer(s) must be printed in the space provided for that purpose. The signature(s) of the authorized officer(s) and the corporate seal must be affixed.
 - b) Partnership: The firm name and the name(s) of the person(s) signing must be printed in the space provided. One or more of the partners must sign in the presence of a witness who must also sign. An adhesive coloured seal must be affixed beside each signature.
 - c) Sole Proprietorship : The business name and the name of the sole proprietor must be printed in the space provided. The sole proprietor must sign in the presence of a witness who must also sign. An adhesive coloured seal must be affixed beside each signature.
- 2) Any alterations in the printed part of the Construction Tender Form or failure to provide the information requested therein, may render the tender invalid.
- 3) All space in the Construction Tender Form must be completed and any handwritten or typewritten corrections to the parts so completed must be initialed immediately to the side of the corrections by the person or persons executing the tender on behalf of the the tenderer.
- 4) Tenders must be based on the plans, specifications and tender documents provided.

Article 3 - Contract

- 1) The Contractor will be required to sign a contract similar to the Standard Contract Form for Fixed Price Construction Contracts, a blank specimen of which is enclosed in the package for reference purposes.

Article 4 – Tender Destination

- 1a) Tenders are to be submitted in sealed envelopes to:
National Research Council Canada
Administrative Services and Property Management Branch
1200 Montreal Road
Building M-22
Ottawa, ON
K1A 0R6

Endorsed "Tender for (insert title of work as it appears in the drawings and specifications)" and must bear the name and address of the tenderer.

- 1b) Unless otherwise specified, the only documents required to be submitted with the tender are the Tender form and the Bid Security.

Article 5 - Security

- 1a) Bid Security is required and must be submitted in one of the following forms:

- i) a certified cheque payable to the Receiver General for Canada and

drawn on a member of the Canadian Payments Association or a local cooperative credit society that is a member of a central cooperative credit society having membership in the Canadian Payments Association; **OR**

- ii) bonds of the Government of Canada, or bonds unconditionally guaranteed as to principal and interest by the Government of Canada; **OR**

- iii) a bid bond.

- 1b) Regardless of the Bid Security submitted, it should never be more than \$250,000 maximum, calculated at 10% of the first \$250,000 of the tendered price, plus 5% of any amount in excess of \$250,000.

- 2a) Bid Security shall accompany each tender or, if forwarded separately from the tender, shall be provided not later than the specified tender closing time. Bid Security must be in the ORIGINAL form. Fax or photocopies and NOT acceptable. FAILURE TO PROVIDE THE REQUIRED BID SECURITY SHALL INVALIDATE THE TENDER.

- 2b) If the tender is not accepted, the Bid Security submitted pursuant to Article 8 shall be returned to the tenderer.

- 3a) The successful tenderer is required to provide security within 14 days of receiving notice of tender acceptance. The tenderer must furnish EITHER:

- i) a Security Deposit as described in 1(b) above together with a Labour and Material Payment Bond in the amount of at least 50% of the amount payable under the contract, **OR**
- ii) a Performance Bond and a Labour and Material Payment Bond – each in the amount of 50% of the amount payable under the contract.

- 3b) Should it not be possible to obtain a Labour Material Payment Bond as required under 3(a) above, on making application thereof to at least two acceptable Bonding Companies, an additional Security Deposit of a straight 10% of the amount payable under the contract must be furnished.
- 3c) Where a tender has been accompanied by a Security Deposit, as described in 1(b) above, the amount of the Security Deposit required under 3(a) above may be reduced by the amount of the Security Deposit which accompanied the tender.
- 3d) Bonds must be in an approved form and from the companies whose

bonds are acceptable to the Government of Canada. Samples of the approved form of Bid Bond, Performance Bond and Labour and Material Payment Bond and a list of acceptable Bonding Companies may be obtained from the Contracting Officer, National Research Council, Building M-22, Montreal Road, Ottawa, Ontario, K1A 0R6.

Article 6 – Interest On Security Deposits

- 1) Tenderers are notified that they must make their own arrangements with their bankers as to the interest, if any, on the amount of the certified cheque accompanying their tender. The Council will not pay interest on said cheque pending the awarding of the contract nor be responsible for the payments of interest under any arrangement made by the tenderers.

Article 7 – Sales Tax

- 1) The amount of the tender shall include all taxes as levied under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act or the Customs Tariff, in force or applicable at the time.
- 2) In Quebec, the Provincial Sales Tax should not be included in the Tender Price as the Federal Government is exempt. Tenderers should contact the Provincial Revenue Minister to recover all taxes paid for goods and services rendered under this contract.

Tenderers must include in their Tender Price the amount of Provincial Sales Tax for which the exemption does not apply.

Article 8 – Examination of Site

- 1) All parties tendering shall examine the sites of the proposed work before sending in their tender and make themselves thoroughly acquainted with the same and obtain for themselves any and all information that may be necessary for the proper carrying out of the Contract. No after claim will be allowed or entertained for any work or material that may be requisite and necessary for the proper execution and completion of this Contract with the exception of that provided for under GC 35 in the General Conditions of the General Specification.

Article 9 – Discrepancies, Omissions, Etc.

- 1a) Bidders finding discrepancies in, or omissions from, drawings, specifications or other documents, or having any doubt as to the meaning or intent of any part thereof, should at once notify the Engineer who will

send written instructions or explanation to all bidders.

- 1b) Neither the Engineer nor the Council will be responsible for oral instructions.

- 1c) Addenda or corrections issued during the time of the bidding shall be covered in the proposal. However, the contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work and made prior to the date of the contract.

Article 10 – No additional Payments for Increased Costs

- 1) The only other adjustments in the contract price allowed are those specified in the General Conditions of the General Specification. The contract price will not be amended for change in freight rates, exchange rates, wage rates or cost of materials, plant or services.

Article 11 – Awards

- 1a) The Council reserves the power and right to reject tenders received from parties who cannot show a reasonable acquaintance with and preparation for the proper performance of the class of work herein specified and shown on plans. Evidence of such competence must be furnished by the tenderers if required to do so.
- 1b) A tenderer may be required to furnish to the Contracting Office, National Research Council of Canada, Building M-22, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6, Canada, unsigned copies of the insurance requirements as covered by the Insurance Conditions of the General Specification.
- 1c) The Council does not bind itself to accept the lowest or any tender.

Article 12 – Harmonized Sales Tax

- 1) The Harmonized Sales Tax (HST) which is now in effect shall be considered an applicable tax for the purpose of this tender. However, the bidder shall NOT include any amount in the bid price for said HST. The successful contractor will indicate on each application for payment as a separate amount the appropriate HST the Owner is legally obliged to pay. This amount will be paid to the Contractor in addition to the amount certified for payment under the Contract in addition to the amount certified for payment under the Contract and will therefore not affect the Contract Price. The Contractor agrees to remit any HST collected or due to Revenue Canada.

Non-Resident Contractors

RST Guide 804

Published: August 2006

Content last reviewed: August 2010

ISBN: 1-4249-2007-8 (Print), 1-4249-2009-4 (PDF), 1-4249-2008-6 (HTML)

Publication Archived

Notice to the reader: For Retail Sales Tax (RST) – On July 1, 2010 the 13 per cent Harmonized Sales Tax (HST) took effect in Ontario replacing the existing provincial Retail Sales Tax (RST) and combining it with the federal Goods and Services Tax (GST). As a result, RST provisions described on this page and in other publications ended on June 30, 2010.

Effective July 1, 2010 this publication was archived for RST purposes **only**. Use caution when you refer to it, since it reflects the law in force for RST at the time it was released and may no longer apply.

- The information in this Guide explains the Retail Sales Tax (RST) responsibilities of a non-resident contractor who is awarded a construction contract to perform work in Ontario and their Ontario customers. Please note that this Guide replaces the previous version dated March 2001.

Non-Resident Contractor Defined

A non-resident contractor is a contractor located outside Ontario who has been awarded a construction contract to perform work in Ontario, and who has not maintained a permanent place of business in Ontario continuously for twelve months immediately prior to signing the contract, or which is not a company incorporated under the laws of Ontario. A construction contract is a contract for the erection, remodelling or repair of a building or other structure on land.

A contractor is a person who is in the business of constructing, altering, repairing or improving real property and includes, but is not limited to,

1. a general contractor and subcontractor,
2. a carpenter, bricklayer, stonemason, electrician, plasterer, plumber, painter, decorator, paver, and bridge builder,
3. a sheet metal, tile and terrazzo, heating, air conditioning, insulation, ventilating, papering, road, roofing and cement contractor,

who installs or incorporates items into real property. (See RST [Guide 206 - Real Property and Fixtures](#)).

Registration and Guarantee Deposit

Non-resident contractors who are awarded a construction contract in Ontario are required to register with the Ministry of Finance (ministry), Centralized Programs Unit and post a guarantee equal to 4 per cent of the total of each Ontario contract. The guarantee can be paid in cash, by certified cheque (payable to the Minister of Finance), letter of credit or by a guarantee bond.

To register with the ministry and to obtain further information on posting a guarantee, contractors should contact the ministry's Centralized Programs Unit, 33 King Street West, PO Box 623, Oshawa, Ontario, L1H 8H7, toll-free 1 866 ONT-TAXS (1 866 668-8297) or fax to 905 435-3617.

Non-resident contractors who sell taxable goods on a supply only basis to Ontario customers, or provide taxable services in Ontario, may obtain a regular Vendor Permit to collect and remit RST on their sales. Non-resident contractors who have been issued a regular Vendor Permit must still register separately with the ministry and post a guarantee if they are awarded a construction contract in Ontario.

Letter of Compliance

After receiving the guarantee, the ministry mails out two copies of a "letter of compliance" to the contractor certifying the Retail Sales Tax (RST) requirements have been met. Contractors must give a copy of the letter to their customers.

If a copy of the compliance letter is not provided, the customer must withhold 4 per cent of all amounts payable to the non resident contractor and pay the withheld amounts to the Minister of Finance (minister). Details relating to the contract should be sent along with the payments to the Centralized Programs Unit. Customers may give the minister a guarantee bond equal to 4 per cent of the total contract price instead of making the 4 per cent payments.

Note: Customers who do not follow these requirements may be held liable for 4 per cent of all amounts payable to the non resident contractor or any other amount that the Ministry deems to be the RST payable resulting from the performance of the contract.

Calculation of RST

Fair Value

RST is payable on the "fair value" of materials, purchased or brought into Ontario, to be used for work performed in Ontario. "Fair value" includes:

- the purchase price in Canadian funds;
- all charges by the supplier for handling and delivery, and
- any federal customs duties and excise taxes paid (but not the federal Goods and Services Tax (GST)).

Contractors are also required to pay RST to Ontario suppliers on the purchase, rental or lease of taxable services, materials, machinery, or equipment.

Machinery and Equipment - Leased

If machinery or equipment is leased from a supplier outside Ontario and brought into the province, RST is payable on the lease payments for the period the machinery or equipment is in Ontario.

Machinery and Equipment - Owned by Contractor

If machinery or equipment is owned by the contractor, RST may be calculated in one of the following ways:

- a. If a contractor brings machinery and equipment into Ontario for less than 12 months' use, RST is to be calculated using the following formula:

$$1/36 \times \text{net book value at date of import} \times \text{number of months in Ontario} \times \text{tax rate}$$

For the purpose of this formula, RST is payable for each month or part of a month that the goods are in Ontario. A month is considered 31 consecutive days and a part month is considered more than 12 days. The RST payable is based on the number of days the machinery and equipment are located in Ontario and not the number of days the items are actually used.

Example: Equipment is brought into Ontario on March 28 and taken out on May 8. The items were in the province for 41 days. RST is payable on the first 31 days' temporary stay in Ontario vs. use of the equipment. Since the remainder (10 days) is not considered part of a month, no RST is payable on this portion.

- b. If, at the time the goods are brought into Ontario, it is expected that the machinery or equipment will be in Ontario for more than twelve months, contractors must pay Retail Sales Tax (RST) on the following basis:

$$\text{net book value at date of import} \times \text{tax rate}$$

If, at the time of import, the length of time is not known, vendors may use the formula under (a). If they later find it necessary to keep the machinery and equipment in Ontario for more than 12 months, the RST paid under (a) may be deducted from the RST payable under (b).

Using formula (a) or (b) above, contractors will calculate and remit the RST payable on the return that is filed when the contract is finished.

(See Completion of Contract section)

M a n u f a c t u r i n g f o r O w n U s e

Contractors may need to manufacture items, such as doors and windows, for their construction contracts. Manufacturing is work done in a factory away from a construction

site, or in a mobile unit or workshop that is on or near the construction site. Manufacturing occurs when raw materials are changed into manufactured goods for use in real property contracts.

Contractors are considered to be manufacturing contractors if they produce goods:

1. for their own use in real property contracts, and
2. the manufactured cost of the goods is more than \$50,000 a year.

(See RST Guide 401 - Manufacturing Contractors)

Contracts with the Federal Government

Where a non-resident contractor enters into a construction contract with the federal government, for the construction of a building and/or the installation of equipment, the nature of the equipment will determine whether the contract should be let on a tax-included or tax excluded basis.

Contracts for the construction of a building and the installation of equipment that directly services that building (i.e., elevators, escalators, light fixtures, central heating and air conditioning, etc.) should be tendered on a tax -included basis. Contractors are the consumers of the materials used in fulfilling these contracts and must pay or account for RST on the materials used to complete the contracts. There is NO exemption just because the contract is with the federal government.

Contracts for the installation of equipment that becomes a fixture and does not directly service a building (i.e., material handling equipment, production machinery, communication equipment, training equipment) may be tendered on a tax-excluded basis. Contractors engaged in contracts of this nature are permitted to make tax exempt purchases of such equipment by issuing a valid Purchase Exemption Certificate (PEC) to their supplier. Only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC.

Exemptions

Contractors may supply and install equipment or materials for certain customers that may be entitled to an exemption from RST (e.g., manufacturers, Indian band councils, farmers and diplomatic organizations). The equipment or materials, when installed, becomes real property if it is permanently attached to land, or a fixture if it is permanently attached to a building or real property structure. Since contractors are liable for RST, they should contact the ministry to find out if the customer qualifies for exemption before tendering the contract on a tax-excluded basis.

Status Indians, Indian Bands and Band Councils

Non-resident contractors may purchase building materials exempt from Retail Sales Tax (RST) for certain buildings and structures situated on reserves. The cost of such projects must be paid by the band council, and the buildings must provide a community service for

the reserve. Contracts for the construction of an exempt community building project should be made on an RST-excluded basis. Non-resident contractors may purchase the materials exempt from RST by providing suppliers with a valid Purchase Exemption Certificate (PEC). As noted previously, only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC. (See RST Guide 204 - Purchase Exemption Certificates).

Non-resident contractors must pay RST on items purchased for incorporation into a building or structure built for individual status Indians on a reserve. (See RST Guide 808 - Status Indians, Indian Bands and Band Councils).

Completion of Contract

When a contract is completed, non-resident contractors who were required to post a guarantee must complete a Non-Resident Contractor Retail Sales Tax Return [PDF - 92 KB] that is provided by the ministry.

If a contractor's guarantee was given in cash or by certified cheque, the amount of the deposit can be deducted from the RST liability owed by the contractor. If the liability is greater than the deposit, the amount remaining must be paid by the contractor. If the deposit is more than the liability, the contractor will receive a refund.

If a guarantee bond was posted instead of cash, the bond will be discharged once the RST liability is paid in full.

All returns are subject to audit.

Legislative References

- Retail Sales Tax Act, Subsections 19(2) and 39(3)(4) and (5)
- Regulation 1012 under the Act, Subsections 15.3(1)(2)(5)(6) and (7)
- Regulation 1013 under the Act, Sections 1 and 3

For More Information

The information contained in this publication is only a guideline. For more information, please contact the Ontario Ministry of Finance at 1 866 ONT-TAXS (1 866 668-8297) or visit our website at ontario.ca/finance.

Acceptable Bonding Companies

Published September 2010

The following is a list of insurance companies whose bonds may be accepted as security by the government.

1. Canadian Companies

ACE INA Insurance
Allstate Insurance Company of Canada
Ascentus Insurance Ltd. (Surety only)
Aviva Insurance Company of Canada
AXA Insurance (Canada)
AXA Pacific Insurance Company
Canadian Northern Shield Insurance Company
Certas Direct Insurance Company (Surety only)
Chartis Insurance Company of Canada (formerly AIG Commercial Insurance Company of Canada)
Chubb Insurance Company of Canada
Commonwealth Insurance Company
Co-operators General Insurance Company
CUMIS General Insurance Company
The Dominion of Canada General Insurance Company
Echelon General Insurance Company (Surety only)
Economical Mutual Insurance Company
Elite Insurance Company
Everest Insurance Company of Canada
Federated Insurance Company of Canada
Federation Insurance Company of Canada
Gore Mutual Insurance Company
Grain Insurance and Guarantee Company
The Guarantee Company of North America
Industrial Alliance Pacific General Insurance Corporation
Intact Insurance Company
Jevco Insurance Company (Surety only)
Lombard General Insurance Company of Canada
Lombard Insurance Company
Markel Insurance Company of Canada
The Missisquoi Insurance Company
The Nordic Insurance Company of Canada
The North Waterloo Farmers Mutual Insurance Company (Fidelity only)
Novex Insurance Company (Fidelity only)
The Personal Insurance Company
Pilot Insurance Company
Quebec Assurance Company
Royal & Sun Alliance Insurance Company of Canada
Saskatchewan Mutual Insurance Company
Scottish & York Insurance Co. Limited
The Sovereign General Insurance Company
TD General Insurance Company
Temple Insurance Company
Traders General Insurance Company
Travelers Guarantee Company of Canada
Trisura Guarantee Insurance Company
The Wawanesa Mutual Insurance Company
Waterloo Insurance Company

Western Assurance Company
Western Surety Company

2. Provincial Companies

- Surety bonds issued by the following companies may be accepted provided that the contract of suretyship was executed in a province in which the company is licensed to do business as indicated in brackets.
- AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
ALPHA, Compagnie d'Assurances Inc. (Que.)
Canada West Insurance Company (Ont., Man., Sask, Alta., B.C., N.W.T.) (Surety only)
The Canadian Union Assurance Company (Que.)
La Capitale General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., Que.(Surety only), Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
Coachman Insurance Company (Ont.)
Continental Casualty Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
GCAN Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
The Insurance Company of Prince Edward Island (N.S., P.E.I., N.B.)
Kingsway General Insurance Company (N.S., N.B., Que., Ont., Man., Sask., Alta., and B.C.)
Liberty Mutual Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
Manitoba Public Insurance Corporation (Man.)
Norgroupe Assurance Générales Inc.
Orleans General Insurance Company (N.B., Que., Ont.)
Saskatchewan Government Insurance Office (Sask.)
SGI CANADA Insurance Services Ltd. (Ont., Man., Sask., Alta.)
L'Unique General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., N.B., Que.(Surety only), Ont.(Surety only), Man., Sask., Alta., B.C.(Surety only), Nun., N.W.T., Yuk.)

3. Foreign Companies

- Aspen Insurance UK Limited
Compagnie Française d'Assurance pour le Commerce Extérieur (Fidelity only)
Eagle Star Insurance Company Limited
Ecclesiastical Insurance Office Public Limited Company (Fidelity only)
Lloyd's Underwriters
Mitsui Sumitomo Insurance Company, Limited
NIPPONKOA Insurance Company, Limited
Sompo Japan Insurance Inc.
Tokio Marine & Nichido Fire Insurance Co., Ltd.
XL Insurance Company Limited (Surety only)
Zurich Insurance Company Ltd



Articles of Agreement

Standard Construction Contract – Articles of Agreement
(23/01/2002)

- A1 Contract Documents
- A2 Date of Completion of Work and Description of Work
- A3 Contract Amount
- A4 Contractor's Address
- A5 Unit Price Table



Articles of Agreement

These Articles of Agreement made in duplicate this day of .

Between

Her Majesty the Queen, in right of Canada (referred to in the contract documents as “ Her Majesty”) represented by the National Research Council Canada (referred to in the contract documents as the “Council”)

and

(referred to in the contract documents as the “Contractor”)

Witness that in consideration for the mutual promises and obligations contained in the contract, Her Majesty and the Contractor covenant and agree as follows:

A1 Contract Documents
(23/01/2002)

- 1.1 Subject to A1.4 and A1.5, the documents forming the contract between Her Majesty and the Contractor, referred to herein as the contract documents, are
- 1.1.1 these Articles of Agreement,
 - 1.1.2 the document attached hereto, marked “A” and entitled “Plans and Specifications”, referred to herein as the Plans and Specifications,
 - 1.1.3 the document attached hereto, marked “B” and entitled “Terms of Payment”, referred to herein as the Terms of Payment,
 - 1.1.4 the document attached hereto, marked “C” and entitled “General Conditions”, referred to herein as the General Conditions,
 - 1.1.5 the document attached hereto, marked “D” and entitled “Labour Conditions”, referred to herein as the Labour Conditions,
 - 1.1.6 the document attached hereto, marked “E” and entitled “Insurance Conditions”, referred to herein as the Insurance Conditions,
 - 1.1.7 the document attached hereto, marked “F” and entitled “Contract Security Conditions”, referred to herein as the Contract Security Conditions, and
 - 1.1.8 any amendment or variation of the contract documents that is made in accordance with the General Conditions.
 - 1.1.9 the document entitled Fair Wage Schedules for Federal Construction Contracts referred to herein as Fair Wage Schedules



Articles of Agreement

The Council hereby designates _____ of
of the Government of Canada as the Engineer for the purposes of the contract, and for all purposes of or
incidental to the contract, the Engineer's address shall be deemed to be:

1.2 In the contract

1.3.1 "Fixed Price Arrangement" means that part of the contract that prescribes a lump sum as payment for performance of the work to which it relates; and

1.3.2 "Unit Price Arrangement" means that part of the contract that prescribes the product of a price multiplied by a number of units of measurement of a class as payment for performance of the work to which it relates.

1.3 Any of the provisions of the contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the work to which a Fixed Price Arrangement is applicable.

1.4 Any of the provisions of the contract that are expressly stipulated to be applicable only to a Fixed Price Arrangement are not applicable to any part of the work to which a Unit Price Arrangement is applicable.

**A2 Date of Completion of Work and Description of Work
(23/01/2002)**

2.1 The contractor shall, between the date of these Articles of Agreement and the
, in the careful and workmanlike manner, diligently perform and complete the following work:

which work is more particularly described in the Plans and Specifications,



Articles of Agreement

A3 Contract Amount

(23/01/2002)

- 3.1 Subject to any increase, decrease, deduction, reduction or set-off that may be made under the Contract, Her Majesty shall pay the Contractor at the times and in the manner that is set out or referred to in the Terms of Payment
- 3.1.1 the sum of _____ (GST/HST extra), in consideration for the performance of the work or the part thereof that is subject to Fixed Price Arrangement, and
- 3.1.2 a sum that is equal to the aggregate of the products of the number of units of Measurement of each class of labour, plant and material that is set out in a Final Certificate of Measurement referred to in GC44.8 multiplied in each case by the appropriate unit price that is set out in the Unit Price Table in consideration for the performance of the work or the part thereof that is subject to a Unit Price Arrangement.
- 3.2 For the information and guidance of the Contractor and the persons administering the contract on behalf of Her Majesty, but not so as to constitute a warranty, representation or undertaking of any nature by either party, it is estimated that the total amount payable by Her Majesty to the Contractor for the part of the work to which a Unit Price Arrangement is applicable will be approximately \$N/A
- 3.3 A3.1.1 is applicable only to a Fixed Price Arrangement.
- 3.4 A3.1.2 and A3.2 applicable only to a Unit Price Arrangement.

A4 Contractor's Address

(23/01/2002)

- 4.1 For all purposes of or incidental to the contract, the Contractor's address shall be deemed to be:



Articles of Agreement

A5 Unit Price Table
(23/01/2002)

5.1 Her Majesty and the Contractor agree that the following table is the Unit Price Table for the purposes of the contract.

Column 1 Item	Column 2 Class of Labour Plant Or Material	Column 3 Unit of Measurement	Column 4 Estimated Total Quantity	Column 5 Price per Unit	Column 6 Estimated Total Price
		N/A			

- 5.2 The Unit Price Table that is set out in A5.1 designates the part of the work to which a Unit Price Arrangement is applicable.
- 5.3 The part of the work that is not designated in the Unit Price Table referred to in A5.2 is the part of the work to which a Fixed Price Arrangement is applicable.



Articles of Agreement

Signed on behalf of Her Majesty by

as Senior Contracting Officer

and _____

as _____

of the National Research Council Canada

on the _____

day of _____

Signed, sealed and delivered by

as _____ and
Position

by _____

as _____
Position

of

on the _____

day of _____



Seal

SECTION 00 01 00 General Instructions
SECTION 00 15 45 General Safety and Fire Requirements

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1. SCOPE OF WORK

- .1 Work under this contract covers the modernization of the passenger elevator, Installation No. 21147, in Building M-12 located on the Montreal Road Campus of the National Research Council of Canada.

2. WORK & MATERIALS SUPPLIED BY OWNER

- .1 Work and materials not included in this contract are described on drawings and in this specification.
- .2 Deliver to a storage place, as directed by the Departmental Representative, all materials returned to the Owner.
- .3 Unless otherwise specified, accept owner-supplied materials at their storage location and provide all transportation as required.
- .4 Contractor's duties:
 - .1 Unload at site.
 - .2 Promptly inspect products and report damaged or defective items.
 - .3 Give written notification to the Departmental Representative for items accepted in good order.
 - .4 Handle at site, including uncrating and storage.
 - .5 Repair or replace items damaged on site.
 - .6 Install, connect finished products as specified.

3. LABOUR CONDITIONS AND FAIR WAGE SCHEDULE

- .1 Comply with all labour conditions as specified by the Human Resources Development Canada, Labour Program, including those outlined in Appendix "D", Labour Conditions and Fair Wage Schedule.

4. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)

- .1 The contractor shall comply with Federal and Provincial legislation regarding the WHMIS. The contractor's responsibilities include, but are not limited to the following:
 - .1 To ensure that any controlled product brought on site by the contractor or sub-contractor is labeled;
 - .2 To make available to the workers and the Departmental Representative, Material Safety Data Sheets (MSDS) for these controlled products;
 - .3 To train own workers about WHMIS, and about the controlled products that they use on site;
 - .4 To inform other contractors, sub-contractors the Departmental Representative, authorized visitors and outside inspection agency personnel about the presence and use of such products on the site; and

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

5. EXAMINATION REQUIREMENTS OF BILL 208, SECTION 18(a)

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

- .1 Acrylonitrile, Isocyanates, Arsenic, Lead, Asbestos, Mercury, Benzene, Silica, Coke Oven Emissions, Vinyl Chloride, and Ethylene Oxide
 - .1 It is the responsibility of the general contractor to ensure that each prospective subcontractor for this project has received a copy of the above list.

6. GENERAL

- .1 The word "provide" indicated in this Specification means to supply and install. Site Examination

7. COMPLETION

- .1 **Complete all work within 22 week(s) after receipt of notification of acceptance of tender.**

8. COST BREAKDOWN

- .1 Submit, for approval by the Departmental Representative, a breakdown of tender before submitting the first request for progress payment.
- .2 Use the approved cost breakdown as the basis for submitting all claims.
- .3 Request Departmental Representative's verbal approval to amount of claim prior to preparing and submitting the claim in its final form.

9. MATERIALS AND WORKMANSHIP

- .1 Install only new materials on this project unless specifically noted otherwise.
- .2 Only first class workmanship will be accepted, not only with regard to safety, efficiency, durability, but also with regard to neatness of detail and performance. Security Deposit.

10. SUB-TRADES

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

11. SITE VISITS

- .1 For tendering purposes, the site visit(s) must be attended in the presence of the Departmental Representative.

12. MINIMUM STANDARDS

- .1 Conform to or exceed minimum acceptable standards of the various applicable federal, provincial and municipal codes such as The National Building Code, The National Fire Code, Canadian Plumbing Code, Canadian Electrical Code, Canadian Code for Construction Safety and the Provincial Construction Safety Act.
- .2 Work to conform to referenced standards and codes as reaffirmed or revised to date of specification.

13. FIRE AND GENERAL SAFETY

- .1 Comply with the requirements of Fire Commissioner of Canada Standards No. 301 and 302.
- .2 Comply with the requirements of the National Research Council, Fire Prevention Officer including those outlined in Section 01545.
- .3 Comply with safety related instructions from the Departmental Representative or the National Research Council, Fire Prevention Officer.
- .4 Comply with the National Building Code (Part 8, Construction Safety Measures) and the Provincial Construction Safety Act.

14. PROTECTION AND WARNING NOTICES

- .1 Provide all materials required to protect existing equipment.
- .2 Erect dust barriers to prevent dust and debris from spreading through the building.
- .3 Place dust protection in the form of cover sheets over equipment and furniture and tape these sheets to floors, to ensure no dust infiltration.
- .4 Repair or replace any and all damage to Owner's property caused during construction, at no cost to the Owner and to the satisfaction of the Departmental Representative.
- .5 Protect the buildings, roads, lawns, services, etc. from damage which might occur as a result of this work.
- .6 Plan and co-ordinate the work to protect the buildings from the leakage of water, dust, etc.
- .7 Ensure that all doors, windows, etc., that could allow transfer of dust, noise, fumes, etc., to other areas of the building are kept closed.
- .8 Secure working area at the end of each day's work and be responsible for the same.

- .9 Provide and maintain adequate safety barricades around the work sites to protect NRC personnel and the public from injury during the carrying out of work.
- .10 Post warnings in all instances where possible injury could occur such as Work Overhead, Hard Hat Areas, etc. or as required by the Departmental Representative.
- .11 Provide temporary protective enclosures over building entrances and exits to protect pedestrians. All enclosures to be structurally sound against weather and falling debris.

15. FASTENING DEVICES

- .1 Do not use explosive actuated tools, unless permitted expressly by the Departmental Representative.
- .2 Comply with the requirements of CSA A-166 (Safety Code for Explosive Actuated Tools).
- .3 Do not use any kind of impact or percussion tool without first obtaining permission from the Departmental Representative.

16. BILINGUALISM

- .1 Ensure that all signs, notices, etc. are posted in both official languages.
- .2 Ensure that all identification of services called for by this contract are bilingual.

17. TEMPORARY HEATING AND VENTILATING

- .1 Bear the costs of temporary heat and ventilation during construction including costs of installation, fuel, operation, maintenance, and removal of equipment.
- .2 Use of direct-fired heaters discharging waste products into the work areas will not be permitted unless prior approval is given by the Departmental Representative.
- .3 Furnish and install temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of work.
 - .2 Protect work and products against dampness and cold.
 - .3 Reduce moisture condensation on surfaces to an acceptable level.
 - .4 Provide ambient temperature and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for a safe working environment.
- .4 Maintain minimum temperature of 10 °C (50 °F) or higher where specified as soon as finishing work is commenced and maintain until acceptance of the structure by the Departmental Representative. Maintain ambient temperature and humidity levels as required for comfort of NRC personnel.
- .5 Prevent hazardous or unhealthy accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction including also, storage areas and sanitary facilities.

- .1 Dispose of exhaust materials in a manner that will not result in a harmful or unhealthy exposure to persons.
- .6 Maintain strict supervision of operation of temporary heating and ventilating equipment.
 - .1 Enforce conformance with applicable codes and standards.
 - .2 Comply with instructions of NRC Fire Prevention Officer including provision of full-time watchmen services when directed.
 - .3 Enforce safe practices.
 - .4 Vent direct-fired combustion units to outside.
- .7 Submit tenders assuming existing or new equipment and systems will not be used for temporary heating and ventilating.

18. DISCREPANCIES & INTERFERENCES

- .1 Before tender closing, examine drawings and specifications. Report at once to the Departmental Representative, any defects, discrepancies, omissions or interferences affecting the work.
- .2 Provide items mentioned in either the drawings or the specification.
- .3 Contractor to immediately inform the Departmental Representative in writing, of any discrepancies between the plans and the physical conditions so the Departmental Representative may promptly verify same.
- .4 Any work done after such a discovery, until authorized, is at the contractor's risk.
- .5 Where special interferences are encountered on the job and they have not been pointed out on the original tender or on the plans and specifications, provide offsets, bends or reroute the services to suit job conditions at no extra cost.
- .6 Arrange all work so as not to interfere in any way with other work being carried out.
- .7 Commencement of work will imply an acceptance of existing conditions.

19. CO-OPERATION

- .1 Co-operate with NRC staff in order to keep disruption of normal research work to an absolute minimum.
- .2 Work out in advance, a schedule for all work which might disrupt normal work in the building.
- .3 Have schedule approved by the Departmental Representative.
- .4 Notify the Departmental Representative in writing, 72 hours prior to any intended interruption of facilities, areas, corridors, mechanical or electrical services and obtain requisite permission.

20. GENERAL REVIEW

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

21. INSPECTION OF BURIED OR CONCEALED SERVICES

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

22. TESTING

- .1 On completion, or as required by local authority inspectors and/or Departmental Representative during progress of work and before any services are covered up and flushing is complete, test all installations in the presence of the Departmental Representative.
- .2 Obtain and hand to the Departmental Representative all acceptance certificates or test reports from authority having jurisdiction. The project will be considered incomplete without the same.

23. WORKING HOURS AND SECURITY

- .1 Normal working hours on the NRC property are from 8:00 a.m. until 4:30 p.m., Monday to Friday inclusive except statutory holidays.
- .2 At all other times, special written passes are required for access to the building site.
- .3 Obtain permission from the Departmental Representative to perform the specific tasks before scheduling any work outside normal working hours.
- .4 An escort may be required whenever working outside normal hours. Contractor to bear the associated costs.
- .5 All persons employed by the contractor, or by any subcontractor, and working on the site must wear and keep visible identification badges issued by the Council.

24. SCHEDULE

- .1 The contractor shall prepare a detailed schedule, fixing the date for commencement and completion of the various parts of the work and update the said schedule. Such schedule shall be made available to the Departmental Representative not later than two weeks after the award of the contract and prior to commencement of any work on site.
- .2 Notify Departmental Representative in writing of any changes in schedule.
- .3 Five (5) day(s) before the scheduled completion date arrange to do an interim inspection with the Departmental Representative.

25. SERVICE INTERRUPTIONS

- .1 Arrange for all service interruptions with the Departmental Representative. Do not operate any NRC equipment or plant.
- .2 Allow 72 hours notice prior to cutting into any existing service.
- .3 All service interruptions are to be of minimum duration.
- .4 Protect existing services as required and immediately make repairs if damage occurs.
- .5 Provide detours, bridges, alternate feeds, etc., as required to minimize disruptions.
- .6 Plan and perform work in advance in order to minimize disruption and service interruption.

26. SHOP DRAWINGS

- .1 Submit to Departmental Representative for review, shop drawings, product data and samples specified within Two (2) weeks after contract award.
- .2 Submit to Departmental Representative for review a complete list of all shop drawings, product data and samples specified and written confirmation of corresponding delivery dates within one (1) week after shop drawings, product data and samples approval date. This list shall be updated on a (bi-weekly) basis and any changes to the list shall be immediately notified in writing to the Departmental Representative.
- .3 Review shop drawings, data sheets and samples prior to submission.
- .4 Submit 5 copies of all shop drawings and product data and samples for review, unless otherwise specified.
- .5 Review of shop drawings and product data by the Departmental Representative does not relieve the contractor of the responsibility for errors and omissions and for the conformity with contract documents.

27. SAMPLES AND MOCK-UPS

- .1 Submit samples in sizes and quantities specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Construct field samples and mock-ups at locations acceptable to Departmental Representative.
- .4 Reviewed samples or mock-ups will become standards of workmanship and material against which installed work will be checked on project.

28. MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturer's instruction. Departmental Representative will designate which document is to be followed.

29. SPECIFICATIONS, "AS BUILTS"

- .1 The contractor shall keep on the site, one (1) up-to-date copy of all specifications, drawings and bulletins pertaining to the work, in good order, available to the Departmental Representative and to his representatives at all times.
- .2 At least one (1) copy of such specifications and drawings shall be marked by the contractor to show all work "As Built" and shall be handed over to the Departmental Representative with the Application for Payment and for the Final Certificate of Completion.

30. ACCEPTANCE OF SITE

- .1 Inspect the site before commencing work, review any unexpected conditions with the Departmental Representative.
- .2 Commencement of work will imply acceptance of existing conditions.

31. PARTIAL OCCUPANCY

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

32. USE OF SITE

- .1 Restrict operations on site to the areas approved by the Departmental Representative at the time of tendering.
- .2 Locate all temporary structures, equipment, storage, etc., to the designated areas.
- .3 Restrict parking to the designated areas.
- .4 Do not restrict access to the building, routes, and services.
- .5 Do not encumber the site with materials or equipment.

33. SITE ACCESS

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

38. PROJECT MEETINGS

- .1 Hold regular project meetings at times and locations approved by the Departmental Representative.
- .2 Notify all parties concerned of meetings to ensure proper coordination of work.
- .3 Departmental Representative will set times for project meetings and assume responsibility for recording and distributing minutes.

39. STORAGE

- .1 Provide storage as required to protect all tools, materials, etc., from damage or theft and be responsible for the same.
- .2 Do not store flammable or explosive materials on site without the authorization of the NRC Fire Prevention Officer.

40. DRAINAGE

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

41. ENCLOSURE OF STRUCTURES

- .1 Construct and maintain all temporary enclosures as required to protect foundations, sub-soil, concrete, masonry, etc., from frost penetration or damage.
- .2 Maintain in place until all chances of damage are over and proper curing has taken place.
- .3 Provide temporary weathertight enclosures for exterior openings until permanent sash and glazing and exterior doors are installed.
- .4 Provide lockable enclosures as required to maintain the security of NRC facilities and be responsible for the same.
- .5 Provide keys to NRC security personnel when required.

42. LAYOUT OF WORK

- .1 Lay out the work carefully and accurately.
- .2 Verify all dimensions and be responsible for them.
- .3 Locate and preserve general reference points.
- .4 Employ competent person to lay out work in accordance with control lines and grades provided by the Departmental Representative.

- .2 Obtain approval of Departmental Representative for regular means of access during the construction period.
- .3 Obtain approval of Departmental Representative before temporarily suspending operations on site; before returning to the site and before leaving the site at the end of the job.
- .4 Provide and maintain access to site.
- .5 Build and maintain temporary roads and provide snow removal during period of work.
- .6 Make good any damage and clean up dirt, debris, etc., resulting from contractor's use of existing roads.

34. OVERLOADING

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

35. TEMPORARY SERVICES

- .1 A source of temporary power will be made available in the area. Bear all costs to make connections to the power source and perform distribution on site.
- .2 Provide all load centres, breakers, conduit, wiring, disconnects, extension cords, transformers, as required from the source of power.
- .3 Power is to be used only for power tools, lighting, controls, motors, and not for space heating.
- .4 A source of temporary water will be made available if required.
- .5 Bear all costs associated with distributing the water to the required locations.
- .6 Comply with NRC requirements when connecting to existing systems in accordance with the articles entitled "Co-operation" and "Service Interruptions" of this section.

36. SITE OFFICE & TELEPHONE

- .1 Contractor to erect a temporary site office at his own expense.
- .2 Install and maintain a telephone, if necessary.
- .3 Use of NRC phones not permitted unless in the case of an emergency.

37. SANITARY FACILITIES

- .1 Provide sanitary facility, and bear all associated costs.

43. CONCEALING

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

44. SPACE CONFLICT

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

45. CUTTING AND PATCHING

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Remove all items as shown or specified.
- .3 Patch and make good with identical materials, the surfaces that have been disturbed, cut or damaged, to the Departmental Representative's satisfaction.
- .4 Where new pipes pass through existing construction, core drill an opening. Size openings to leave 12mm (1/2") clearance around the pipes or pipe insulation. Do not drill or cut any surface without the approval of the Departmental Representative.
- .5 Obtain written approval of the Departmental Representative before cutting openings through existing or new structural members.
- .6 Seal all openings where cables, conduits or pipes pass through walls with an acoustic sealant conforming to CAN/CGSB-19.21-M87.
- .7 Where cables, conduits and pipes pass through fire rated walls and floors, pack space between with compressed glass fibres and seal with caulking in accordance with CAN/CGSB-19.13-M87 AND NBC 3.1.7.

46. CLEAN-UP DURING CONSTRUCTION

- .1 On a daily basis, maintain project site and adjacent area of campus including roofs, free from debris and waste materials.
- .2 Provide on-site dump containers for collection of waste materials and rubbish.

47. FINAL CLEAN-UP

- .1 Upon completion do a final clean-up to the satisfaction of the Departmental Representative.
- .2 Clean all new surfaces, lights, existing surfaces affected by this work, replace filters, etc.
- .3 Clean all resilient flooring and prepare to receive protective finish. Protective finish applied by NRC

48. DISPOSAL OF WASTES

- .1 Dispose of waste materials including volatiles, safely off NRC property. Refer to the article entitled "Fire & General Safety" of this section.

49. WARRANTY

- .1 Refer to General Conditions "C", section GC32.
- .2 Ensure that all manufacturers' guarantees and warranties are issued in the name of the Contractor and the National Research Council.

50. MAINTENANCE MANUALS

- .1 Provide three (3) bilingual copies of maintenance manuals or two English and two French maintenance manuals immediately upon completion of the work and prior to release of holdbacks.
- .2 Manuals to be neatly bound in hard cover loose leaf binders.
- .3 Manuals to include operating and maintenance instructions, all guarantees and warranties, shop drawings, technical data, etc., for the material and apparatus supplied under this contract.

51. IDENTIFICATION BADGES

- .1 Use of Identification Badges is mandatory in NRC buildings.
- .2 Obtain all badges from the Security office.

52. SPECIFIED ACCEPTABLE & ALTERNATIVE EQUIPMENT & MATERIALS

- .1 Materials and equipment scheduled and/or specified on the drawings or in the specifications have been selected to establish a performance and quality standard. In most cases, acceptable manufacturers are stated for any material or equipment specified by manufacturer's name and model number. Contractors may base their tender price on materials and equipment supplied by any of the manufacturers' names as acceptable for the particular material or equipment.
- .2 In addition to the manufacturers specified or named as acceptable, you may propose alternative manufacturers of materials or equipment to the Departmental Representative for acceptance. For a product to be considered as an alternative product substitute, make a written application to the Departmental Representative during the tender period, not later than seven (7) working days before tender closing.
- .3 Certify in writing that the alternative meets all requirements of the specified material or equipment. In addition, it shall be understood that all costs required by or as a result of acceptance or proposed alternatives, will be borne by the contractor.
- .4 Approval of alternatives will be signified by issue of an Addendum to the Tender Documents.

- .5 Any alternative manufacturers or materials submitted which are incomplete and cannot be evaluated, or are later than seven (7) working days before tender closing date or after the tender period, will not be considered.

END OF SECTION

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ARTICLE

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1. RELATED SECTIONS TO SAFETY

- .1 General Instructions, Section 001000 refer to the articles titled:
 - .1 Inspection of Buried or Concealed Services
 - .2 Testing
 - .3 Shop Drawing
 - .4 Service Interruptions
 - .5 Protection and Warning Notices
 - .6 Fastening Devices
 - .7 Partial Occupancy
 - .8 Use of Site

2. MINIMUM STANDARDS

- .1 Conform to or exceed minimum acceptable standards of the various applicable Federal, Provincial and Municipal codes including the National Building Code, The National Fire Code, Canadian Plumbing Code and the Canadian Electrical Code.
- .2 Work is to conform to referenced standards and codes as reaffirmed or revised to date of specification.

3. GENERAL REVIEW

- .1 Periodic review of the contractor's work by the Departmental Representative, using the criteria of the contract document, does not relieve the contractor of safety responsibilities both provincial and those required by NRC and the responsibility of carrying out the work in accordance with contract documents. The contractor shall carry out his own quality control to ensure that the construction work is completed safely and in accordance with the contract documents.

4. CONSTRUCTION SAFETY

- .1 Be solely responsible for the construction safety of both its employees and those of the sub-contractors at the site of work, and for initiating, maintaining and supervising all safety precautions and programs and procedures in connection with the performance of the work. The contractor will consult with the Departmental Representative as needed to ensure this responsibility is fully carried out.
- .2 Observe all applicable construction safety measures of the National Building Code Part 8; Canadian Code for Construction Safety; the applicable Provincial Occupational Health and Safety Act and Regulations and Municipal authorities having jurisdiction with the provision that in any case of conflict or discrepancy the more stringent requirements shall apply.
- .3 Advise all parties having jurisdiction including the Departmental Representative and, Provincial Inspectors of the need for inspection/certification of the work.

- .4 Comply with the requirements of the Fire Commissioner of Canada, as published in standards Nos. 301 and 302. The Fire Commissioner of Canada, Human Resources Development and Canada Labour Programs is the regulatory authority for fire safety at NRC. The contractor will therefore abide by his directions as well as the provincial Fire Safety Regulations.
- .5 The Departmental Representative will advise the contractor of NRC specific fire safety requirements and monitor for compliance.

5. **WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM WHMIS**

- .1 Comply with Provincial legislation regarding WHMIS. The contractor's responsibilities include, but are not limited to the following:
 - .1 To ensure that any WHMIS Controlled Products brought on site by the contractor or sub-contractor are labelled to WHMIS standards.
 - .2 For WHMIS Controlled Products make readily available to workers and the Departmental Representative, Material Safety Data sheets (MSDS).
 - .3 To train own workers about WHMIS and about the controlled products that they use on site.
 - .4 To inform when asked other contractors, sub-contractors, the Departmental Representative, authorized visitors and outside inspection agency personnel about the presence and use of such products on the site.
 - .5 Demonstrate to the satisfaction of the Departmental Representative, that the Contractor's foreman has had WHMIS training and is knowledgeable in its requirements. The Departmental Representative can require replacement of this person if this condition or compliance to WHMIS practices are not satisfactory, as stated herein.

6. **REQUIREMENTS OF BILL 208 SECTION (a)**

- .1 Under the requirements of Bill 208 of the Ministry of Labour Occupation Health Safety Act, it is the duty of the Owner to identify a listing to the contractor the following designated substances listed below that may be encountered while performing the work described for this project:
 - .1 Acrylonitrile, Isocyanates, Arsenic, Lead, Asbestos, Mercury, Benzene, Silica, Coke Oven Emissions, Vinyl Chloride, and Ethylene Oxide

This notification is provided to comply with the statutory requirements for the owner to disclose the presence of specific regulated substances. This is not intended to be, nor should it be interpreted as, a complete listing of all hazardous or other substances are, or may be present at the project site.
- .2 It is the responsibility of the contractor to ensure that each prospective subcontractor for this project has received a copy of the above list.
- .3 Ensure that workers in contact or proximity to fumehoods, ductwork or dust produced from demolition where these designated substances may occur that the workers are trained

and protected from exposure through the use of appropriate personal protective equipment.

7. BUILDING SMOKING ENVIRONMENT

- .1 Smoking is prohibited inside all NRC buildings except in designated smoking rooms.
- .2 Obey all "No Smoking" signs on the NRC premises.

8. HOT WORK

- .1 Permit:
 - .1 Obtain a Hot Work Permit from the Departmental Representative prior to commencement of any work involving welding, soldering, burning, heating, use of torches or salamanders or any open flame ("Hot Work").
- .2 Site Review:
 - .1 Review the location of "Hot Work" with the Departmental Representative to determine the level of fire safety precautions to be taken prior to commencement of "Hot Work".

9. REPORTING FIRES

- .1 Determine, prior to the commencement of work, the exact location of the nearest fire alarm pull station, and telephone the emergency phone number for reporting fires.
- .2 Report all fires immediately, to the M-1 Commissionaire as follows:
 - .1 Activate nearest fire alarm pull station and;
 - .2 Telephone the appropriate emergency phone number:

<u>NRC LOCATION</u>	<u>CELLULAR OR NON-NRC PHONES</u>	<u>NRC PHONES</u>
Montreal Road Campus	613-993-2411	333
Uplands	613-993-2411	333
Carleton Place	613-993-2411 OR	993-2411
Greenbank	613-993-2411 OR	993-2411
Sussex Drive	613-993-2411	333

- .3 When reporting a fire by phone, give where practicable the location of fire, building number, the nature of and extent of the fire.
- .4 The person activating the fire alarm pull station or reporting a fire by phone must remain at a safe distance from the fire but readily available to provide information on the location and nature of the fire to the fire department personnel and the Departmental Representative.

10. INTERIOR AND EXTERIOR FIRE PROTECTION & ALARM SYSTEMS

- .1 Do not obstruct or shut off fire protection equipment or alarm systems without prior authorization from the Departmental Representative.
- .2 When any fire protection equipment is temporarily shut down, alternative measures as prescribed by the Departmental Representative shall be taken to ensure that fire protection is maintained.
- .3 Do not leave fire protection or alarm systems inactive at the end of a working day without notification and authorization from the Departmental Representative. The Departmental Representative will advise the NRC Safety and Fire Prevention Officer and the building co-ordinator of the details of any such event.
- .4 Do not use fire hydrants, standpipes and hose systems for other than fire fighting purposes unless authorized to do so by the Departmental Representative.

11. FIRE EXTINGUISHERS

- .1 Provide a minimum of 1-20 lbs. ABC Dry Chemical Fire Extinguisher or additional units as advised by the Departmental Representative for every Hot Work operation.
- .2 Provide fire extinguishers for hot asphalt and roofing operations as follows:
 - .1 Pot area - 1-20 lbs, ABC Dry Chemical.
 - .2 Roof - 2-20 lbs, ABC Dry Chemical.
- .3 Provide fire extinguishers equipped as below:
 - .1 Pinned and sealed;
 - .2 With a pressure gauge;
 - .3 With an extinguisher tag signed by a fire extinguisher servicing company indicating the satisfactory condition of the unit.
- .4 Carbon Dioxide (CO₂) extinguishers will not be considered as acceptable substitutes for the above.

12. Roofing

- .1 Kettles:
 - .1 Arrange for the safe location of asphalt kettles and material storage with the Departmental Representative before moving them on site. Do not locate kettles on any roof or structure and keep them at least 10m away from a building and at a safe distance from parked automobiles.
 - .2 Equip kettles with thermometers or gauges that are in good working order.
 - .3 Do not operate kettles at temperatures in excess of 232°C.
 - .4 Maintain continuous supervision while kettles are in operation and provide metal covers for the kettles to smother any flames in case of fire. Provide fire extinguishers as required in article 12.

- .5 Advise the Departmental Representative of container capacities prior to start of work.
- .6 Keep compressed gas cylinders secured in an upright position and a minimum of 20 feet away from any kettle.
- .2 Mops:
 - .1 Use only glass fibre roofing mops.
 - .2 Remove used mops from the roof site at the end of each working day.
- .3 Torch Applied Systems:
 - .1 Do not use torches next to walls.
 - .2 Provide a fire watch as required by article 13 of this section.
- .4 Materials Storage:
 - .1 Store all combustible roofing materials at least 3m away from any structure and 6m from any kettle.

13. FIRE WATCH

- .1 Provide a fire watch for a minimum of one hour after the termination of roofing work involving "Hot work".
- .2 For construction facilities and temporary services refer to General Instructions Section 001000.
- .3 Fire watch personnel must be trained by the contractor in the use of fire extinguishers as required by article 11.

14. OBSTRUCT. OF ACCESS/EGRESS ROUTES-ROADWAYS, ELEVATORS

- .1 Advise the Departmental Representative in advance of any work that may impede the response of the fire department. This includes violation of minimum overhead clearance, erecting of barricades and the digging of trenches.
- .2 Building exit routes must not be obstructed in any way without permission from the Departmental Representative, who will ensure that adequate alternative routes are established and posted.
- .3 The Departmental Representative will advise the NRC Safety and Fire Prevention Officer and the Chief Building Fire Emergency Officer of any exit route obstruction that may warrant advanced planning and communication to building occupants and to the fire department.

15. RUBBISH AND WASTE MATERIALS

- .1 Keep volumes of rubbish and waste materials as low as possible and a minimum of 20 feet from any kettle or roof areas being heated using torches.
- .2 Do not burn rubbish on site.

- .3 Removal:
 - .1 Remove all rubbish from work site at the end of the work day or shift and place it in a dumpster, or as otherwise directed by the Departmental Representative.
- .4 Storage:
 - .1 Exercise extreme care when storing combustible waste materials in work areas. Ensure maximum possible order, adequate ventilation and all safety standards are adhered to when storing any combustible materials. When in doubt, consult with the Departmental Representative.
 - .2 Deposit greasy or oily rags or materials subject to spontaneous combustion in CSA or ULC approved receptacles and remove accumulated wastes on a daily basis.
 - .3 Dumpsters are to be located as per the instructions of the Departmental Representative.

16. FLAMMABLE LIQUIDS

- .1 The handling, storage and use of flammable liquids is governed by the National Fire Code of Canada and the contractor is accepting the work bound by them.
- .2 Flammable liquids such as gasoline, kerosene and naphtha may be kept in quantities not exceeding 45 litres provided they are stored in approved safety cans bearing the ULC seal of approval. Storage of quantities of flammable liquids exceeding 45 litres requires the permission of the Departmental Representative.
- .3 Transfer of flammable liquids is prohibited within buildings except with permission of the Departmental Representative and provided safe bonding practices are followed to protect the contractor's employees, sub-contractors and others having access to NRC facilities.
- .4 Do not transfer flammable liquids in the vicinity of open flames or any type of heat producing device. All transfers must be done using safe bonding practices.
- .5 Do not use flammable liquids having a flash point below 38°C as cleaning agents (examples include gasoline and naphtha).
- .6 Store used flammable waste liquids meant for disposal in approved ULC containers located in a safe, ventilated area and with the approval of the Departmental Representative. Waste flammable liquids are to be removed from the site on a regular basis or as otherwise advised by the Departmental Representative.
- .7 Assure proper ventilation and eliminate all sources of ignition where flammable liquids, such as lacquers or urethane are used. Inform the Departmental Representative prior to the commencement and completion of such work.

17. QUESTIONS AND/OR CLARIFICATION

- .1 Advise the Departmental Representative of any questions or concerns for clarification on fire and safety practices, in addition to the above requirements prior to the commencement or during work where a safety concern has been noted.

END OF SECTION

SECTION 00 01 00 General Instructions

SECTION 00 15 45 General Safety and Fire Requirements

PART 1 - GENERAL

1.1 Related Work

- .1 Comply with the General Conditions of this specification.
- .2 Comply with the Preventive Maintenance Requirements included in this specification.

1.2 Description of Systems

- .1 The characteristics of the **One** existing overhead traction passenger elevator located in building M12 are as follows:
 - .1 Identification: Elevator No. 1 - Installation No. 21147
 - .2 Classification: Passenger
 - .3 Rated Net Capacity: Retain Existing 1363kg
 - .4 Rated Speed: Retain .76 m/s
 - .5 Travel: From B level to 2nd floor, a distance of approx. **11.9m**
 - .6 No. of Stops: Four (4)
 - .7 No. of Entrances: Four (4) front One (1) Rear
 - .8 Entrance Type: Two Speed Side Slide
 - .9 Entrance Size: 1220mm wide X 2133mm high
 - .10 Pit Depth: 1676mm
 - .11 Clear Overhead: 4267mm approx. to underside of secondary level

**ELEVATOR CONTRACTOR TO CONFIRM
ALL INFORMATION, MEASUREMENTS and FLOOR MARKINGS ON SITE**



1.3 Description of Work

- .1 This specification covers the design, engineering, fabrication, manufacture, installation, including overtime and inspection for the modernization of **One** Geared Overhead Traction Passenger Elevator located in Building M12 at the NRC Complex at 1200 Montreal Road, Ottawa.
- .2 All equipment to be designed to meet existing space provisions.
- .3 Provide all materials, tools, labour, design, manufacturing, inspection, and testing as required to complete the work as specified in these Contract Documents.
- .4 Commission all components, systems, and integrated systems in accordance with the requirements of this specification.
- .5 Arrange and pay for all permits, certificates, inspections, and tests required by the governing authorities, including TSSA initial inspection and all follow up inspections.
- .6 Where a device or component is mentioned in the singular number, such references shall be understood to mean that the Contractor shall provide as many of said devices or components as is necessary for the completion of the elevators covered under this specification.
- .7 All equipment being replaced shall become the property of the Contractor, and as such, it is the responsibility of the Contractor to remove it from the premises in a prompt and orderly manner.

1.4 Related Work By Elevator Contractor

- .1 Include all related building work required to complete the modernization of the elevator. Include the following as a minimum.
 - .1 **Machine Room**
 - .1 Patch flush to the floor with cement, all redundant holes in machine room floor resulting from the removal of the redundant elevator equipment.
 - .2 Reduce all hoist cable holes in machine room floor to a minimum.
 - .3 Provide a new lockable fused mainline disconnect switch to suit new elevator equipment. Provide new conduit and wiring from disconnect switch to elevator controller. The new disconnect switch must be installed by licenced electrician before the elevator is operational from the new controller.
 - .4 Provide a new dedicated 120 Volt 15A Car lighting disconnect switch. Provide new wiring to elevator controller. Provide 15 A fuse in the disconnect.

Related Work By Elevator Contractor - Machine Room - cont'd

- .5 Provide permanent lamacoid circuit source labels on the mainline and 110 disconnect switches and the duplex receptacle in the elevator machine room.
- .6 Remove the existing light fixtures and supply and install three (3) **new** two tube 1220mm long CSA approved **LED** guarded energy efficient flourescent light fixtures. Locate new fixtures to suit location of new equipment. Securely fasten light fixtures in place. Do not hang fixtures from chains.
- .7 Relocate the machine room light switch to be inside the machine room cage.
- .8 Paint the machine room floor. Provide two coats of Grey Enamel on floor.
- .9 Paint the hoisting beam yellow in colour.
- .10 Connection in the elevator machine room to the fire alarm signal for automatic and alternate floor recall .
- .11 Provide an Alteration data plate or laminated copy of alteration data sheet on controller as per B44 Code requirements. **Provide a laminated notice on the controller door of the date of the TSSA initial inspection.** Letters and numerals to be a minimum of 12mm high.
- .12 Provide as per clause 2.7.5.2 of the B44 Code, a permanent sign in elevator machine room indicating the specified temperature and humidity range requirements for the elevator equipment to ensure safe and normal elevator operation.
- .13 Patch any holes and finish painting wall behind removed redundant equipment.
- .14 Provide a metal drip pan under the roof drain if drain runs above control or drive equipment.
- .15 Replace all existing duplex receptacles in the machine room with Ground Fault Interrupter Type receptacles.
- .16 Provide a new metal maintenance cabinet and a metal garbage can in the machine room.
- .17 Provide a licence frame holder for the elevator licence to be installed on the front of the controller door. Indicate on TSSA design submission that licence will be located in the elevator machine room.

Related Work By Elevator Contractor - Machine Room - cont'd

- .18 Where required, run all telephone, communication, emergency power signal wiring, elevator security and fire alarm lines and conduit in the hoistway and to the machine room. Others will run lines to the hoistway and provide sufficient wiring to reach the machine room. Elevator Contractor to supply and install the conduit in the hoistway. **All fire alarm wiring must be run in a separate conduit - painted RED.**
 - .19 The Elevator Contractor is to Include all regular and overtime costs relating to the operation of the elevator to assist the fire alarm contractor or electrician for the installation and testing of the fire alarm system relating to the elevator operation.
 - .20 Make the machine room door self closing and self locking.
 - .21 Provide a permanent metal kick plate 125mm high around the perimeter of the upper machine room to B44 Code requirements . Paint kick plate yellow.
 - .22 Should the Contractor's safety policy require a verification of the load rating and/or fastenings of the existing hoisting beams in the machine room which may be used by the Contractor, it will be the Contractor's responsibility and costs associated to have the beams inspected by a Registered Professional Engineer. Any temporary changes as required by the Engineer's report will be carried out by the Contractor at his cost.
- .2 **Portable Electric Lifting Device**
- .1 The Contractor is to obtain and pay the rental costs for an electric portable floor mounted lifting device with a minimum lifting capacity of 545Kg to be used by the building occupants to lift portable cylinders from the ground level to the first floor. The lifting device shall have the capability of lifting through the opening in the first floor.
 - .2 The portable lifting device is to remain on site from the time the elevator is removed from service for modernization until the elevator is returned to service after the modernization.
 - .3 The Contractor will be responsible to pay the costs of the delivery and removal of the portable lifting device from the site.

Related Work By Elevator Contractor - Secondary Level - cont'd

.3 Secondary Level

- .1 Paint the secondary level floor. Provide two coats of Grey Enamel on floor.
- .2 Provide a removable metal guard around the deflector sheave as required by Section 24 and 25 of OSHA requirements and CSA Standard Z432-04 - Safe Guarding of Machinery. Paint Guard Yellow.
- .3 Provide a full height metal guard to protect the hoist and governor ropes from contact by maintenance personnel. Paint the guards yellow.
- .4 Provide a new Draka EN 418 model stop switch located near the existing light switch.
- .5 The existing deflector sheave may be retained and reused if compatible with the new equipment. Refurbish to new condition.

.4 Car Top

- .1 Provide updated crosshead data plate on car top as per B44 Code requirements. Data plate to indicate as a minimum, Contractors name, date of modernization, car speed and capacity, number and size of hoisting ropes.
- .2 Paint the installation number on the car top 50mm high.
- .3 Legibly and completely fill in and install the hoist and governor rope tags on the car top.
- .4 Provide two (2) permanent guarded lights on car top. One light to be a moveable type with a magnetic base. Provide a minimum of 200Lx over the complete car top.
- .5 Paint the elevator number on the crosshead. Number to be 50mm high.
- .6 Provide a green or bare copper ground wire from the hoist cables to the crosshead. Provide secure connections at both ends.
- .7 Provide a permanent Auxiliary Weight data tag on the car top as per TSSA Director's Orders 245/10 and 171/02. Securely fasten data plate with PK screws for long term stability.
- .8 Eliminate the use of flexible conduit on the car top except for items that are moveable.

Related Work By Elevator Contractor - cont'd

.5 Hoistway

- .1 Thoroughly clean down hoistway including the rails and brackets at completion of work. Complete all painting as specified in Part 3 of the specifications.
- .2 Patch all redundant holes in the hoistway including areas around hall button or position indicator fixtures where cement or blocks have been removed or altered to install new fixture boxes.
- .3 **Bevel all projections in the hoistway that protrude more than 100mm. Comply with clause 2.1.6 of the B44 Code. Use non combustible materials such as, metal plates, expanded metal plates, or fire rated drywall.**
- .4 Remove all redundant elevator equipment from the hoistway.
- .5 Provide a green or bare copper ground wire from the hoist cables to the counterweight frame. Provide secure connections at both ends.
- .6 Provide a metal fascia plate above the top floor header. Securely fasten in place and paint black.

.6 Car Enclosure

- .1 Provide a Two Way communication system between the elevator and a readily accessible point outside the hoistway.
- .2 Communication system to comply with Clause 2.27.1 of B44 Code.

.7 Pit

- .1 Extend pit ladder to 5' (1524mm) above sill. Paint ladder yellow.
- .2 Remove the existing pit switch. Provide **TWO** new Draka EN 418 model positive action stop switches. Locate one switch near top of ladder.
- .3 Provide in the pit two (2) new 1220mm (48") 2 tube CSA approved **LED** fluorescent fixtures. Mount new fixtures to suit existing conditions. Include cover on fixtures. Bottom of fixtures to be at least 765mm (30") above pit floor.
- .4 Where required, provide an auxiliary unlocking device in the pit to B44 Code requirements.



Related Work By Elevator Contractor - Pit - cont'd

- .5 Thoroughly wire brush all pit steel. Paint all pit steel with rust resistant black paint. Paint pit floor grey. Replace any worn or badly rusted equipment.
- .6 Replace the existing duplex receptacles in the pit with Ground Fault Interrupter Type receptacles.
- .7 Provide a runby sign in the vicinity of the counterweight.
- .8 Replace the existing light switch with a new **ILLUMINATED** switch.
- .9 Scape and paint front fascia plate.
- .10 Arrange pit ladder rungs to minimize slipping by installing skid resistant material as per clause 2.2.4.2.3 of the B44 Code.

1.5 Related Work By Owner

.1 Machine Room

- .1 **If required by TSSA**, provide air conditioning in the elevator machine room to suit elevator manufacturers requirements. As a minimum maintain the temperature at not less than 50°F and not more than 90°F. Bottom of air conditioning unit not to be any lower than 2134mm above the machine room floor. A minimum of one ton of cooling will be required
- .2 Provide six (6) wires gauge #18 from the fire alarm system to the elevator machine room. For automatic floor recall, the smoke sensor in the machine room and hoistway must be on the same dedicated circuit.
- .3 Provide a lock for the secondary level access door.
- .4 Provide the services of the building fire alarm contractor to silence the alarms and activate the fire alarm testing for all elevator related tests and inspections as required until the elevator passes final inspection by the inspection authorities.
- .5 The fire alarm contractor shall obtain and pay for all required permits and inspection fees associated with any fire alarm modifications. The fire alarm contractor shall verify all changes and new devices added relating to the elevator recall operation. The Owner must be provided with a certificate confirming verification of the fire alarm modifications.
- .6 Provide an active telephone line 24/7 for connection of the communication system in the elevator. The type of phone line must be compatible for the communication system. Run phone line to elevator hoistway or to the elevator communication box in the main lobby.



Related Work By Owner - cont'd

- .7 Should a Professional Engineer's assessment of the elevator machine room floor slab, machine beams, machine beam bearing locations and main rail fastenings locations be required as a result of more than 250 lbs of additional weight being added to the car above and beyond the original car weight, or an increase of the original building design reactions by more than 5%, the cost of this assessment and modifications is the Owner's responsibility.
- .8 As per O. Reg. 278/05, it is the Owner's responsibility to have an Asbestos Management Plan in place, for the site and must be updated on an annual basis. Should asbestos be identified on-site, it is the Owner's responsibility to pay for any tests required to determine the extent of the asbestos and pay for the removal of asbestos identified.

.2 **Emergency Power System**

- .1 Provide an emergency power system that complies with clause 5.14 of C282-00 Emergency Electrical Power Supply For Buildings and clause 2.27.2 of the B44 Code.
- .2 Provide a building emergency power system capable of running the elevator at contract speed and capacity. Include means of absorbing regenerative power from the elevators.
- .3 Check and replace if necessary existing electrical feeders and disconnect switches used to feed the elevator controls on normal power supply, and connect to the building emergency power supply through a new transfer switch.
- .4 The emergency power will be provided on the same lines and the same disconnect as the normal power.
- .5 Provide from the emergency power transfer switch, three pairs of #14 AWG signal wires will be run to the elevator controller.
- .6 One pair of wires will be shorted together giving a closed circuit to indicate that the elevator will be supplied by normal power.
- .7 The same pair of signal wires will give an open circuit to indicate that the elevator will be supplied by emergency power.
- .8 The second pair will provide an advanced warning signal that is closed for normal power and opens between 10 to 20 seconds prior to transfer from:
 - .1 Emergency to normal power.
 - .2 Normal to emergency power during an emergency power test.



1.6 Individual Machine and Overspeed Governor Guarding

- .1 Provide a removable metal guard around the machine as required by Section 24, 25, 75 and 76 of the OHS requirements and CSA Standard Z432-04 - Safe Guarding of Machinery. Paint Guard Yellow.
- .2 Provide a removable metal guard around the overspeed governor. Paint guard yellow.
- .3 Securely fasten the overspeed guard to the floor with 6mm bolts.
- .4 Provide coloured shop drawings of all elevator machine room guarding components.
- .5 Provide only guards manufactured by Flavesco Inc. 21 Antares Drive, Suite 101, Ottawa.
- .6 **Include machine guarding on the TSSA design submission as part of the modernization scope of work.**
- .7 Paint the elevator number in black 100mm high on the machine and governor guarding.

1.7 Cut Patch and Make Good

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Take precautions to protect the existing structure from damage.
- .3 Retain and pay for the services of a Professional Engineer to locate existing reinforcement and conduit and obtain approval from the Professional Engineer before coring existing slabs, beams, floors or walls.
- .4 Retain and pay for an independent testing company to locate existing reinforcement and conduit in the areas of proposed openings and to mark locations on the surfaces of slabs, floors and walls on which the cores are to be started. X-ray concrete unless other methods can be shown by Contractor to accurately locate reinforcement and conduit.
- .5 Remove toppings and finishes prior to locating reinforcement and conduit. Mark locations and sizes of cores and locations of reinforcement and conduit using indelible markers with red for top bars, green for bottom bars and black for cores, openings and conduit. The Professional Engineer will review marked-up locations. If locations are not acceptable to the Engineer, relocate proposed openings and repeat process at no extra cost to the Owner.
- .6 Coring: Do not cut existing reinforcement and conduit when coring existing concrete unless approved in advance by the Professional Engineer. Save the complete length of all cores. Label each core with location taken. Make all cores available for review by Engineer.

Cut Patch and Make Good - cont'd

- .7 Patch and make good surfaces cut, damaged or disturbed, to Owner's approval. Match existing material, colour, finish and texture.
- .8 Install firestops and smoke seals in accordance with ULC-S115-1995 around pipe, ductwork, cables and other objects penetrating fire separations to provide fire resistance not less than the fire resistance rating of surrounding floor, ceiling and wall assembly.
- .9 When installing stainless steel plates to cover the existing openings, do not use built-up plates. Provide only one plate to cover complete opening.

1.8 On Site Documentation Required

- .1 **Before** any work commences on site, provide the following information and leave it in the machine room until the completion of the project.
- .2 A complete copy of the elevator specifications.
- .3 A copy of the Company "lock out and tag out" procedures.
- .4 A copy of the Company "accident prevention and safety policy" or a copy of the "elevator industry field employees' safety handbook".

1.9 Procedures - Traction Elevators

- .1 Notify the Owner and Consultant in writing, at least two (2) weeks prior to placing the elevator out of service.
- .2 **Prior to the start of the alteration, weight the car and counterweight separately. Record both weights.**
- .3 Provide Consultant with a digital photo and a written copy of the recorded weights.
- .4 Any modifications to the building structure or contents by the elevator Contractor, such as but not limited to, cutting of floor slabs, cutting of wall slabs, removal of cement blocks or railings to install hoisting beams, removing of ceiling tiles or panels or any modifications which may affect the integrity or appearance of the building, must be approved by the Owner and or a Professional Engineer at no cost to the Owner. All changes required are the responsibility of the Elevator Contractor.
- .5 If the geared machine requires disassembly to be transported to the machine room, the motor must be re-aligned by the manufacturer of the machine, or a local machine shop **before the elevator is returned to service.** Notify Consultant of date and time of re-alignment, or provide a written report from the machine shop or the manufacturer of the machine. This applies only if the machine is being replaced.



Procedures - Traction Elevators - cont'd

- .6 The building components which have modified by the Elevator Contractor must be returned to their original condition similar to the commencement of the elevator project and be approved by the Owner.
- .7 Three weeks after work has commenced on site, the Elevator Contractor is to notify the Project Manager of the "WORK BY OWNER IN THE SPECIFICATIONS" INCLUDING BUT NOT LIMITED to machine room air conditioning provisions and fire alarm signals required for the elevator upgrade and the provisions of a dedicated phone line to the elevator machine room or lobby. Follow up with the Project Manager every three weeks to ensure that ALL work is completed one week prior to booking the TSSA inspection for the last elevator.
- .8 When the elevator is removed from service, a **LAMINATED** bilingual notice stating "THIS ELEVATOR IS OUT OF SERVICE FOR MODERNIZATION" shall be posted at each floor. These notices should include the Elevator Contractor's name and should be securely attached to each hoistway door.
- .9 Where the Elevator Contractor submits for a Minor A or Minor B submission, arrange for the TSSA inspection to be carried out within two (2) weeks of the completion of the work.
 - .1 Forward a copy of the TSSA inspection report to the Consultant.
 - .2 A copy of the TSSA inspection report must also be included in the manuals.
 - .3 The final payment will not be approved until the final TSSA inspection has been carried out and a clear TSSA inspection report is provided.
- .10 Before any construction work commences on site, suitably protect all carpeting and flooring. Protection to remain in place until turnover of the elevator. The Contractor will be responsible for cleaning or replacing of any damaged or dirty flooring
- .11 Obtain a Hot Work permit from the Owner for any cutting ,welding, grinding or for any work causing sparks or open flames.

1.10 Reference Standards

- .1 Comply with all building codes, by-laws, regulations, directives, and ordinances as set forth and mandated by Federal, Provincial, and Municipal Authorities, in effect at the time of installation.
- .2 The latest editions of the following Standards as a minimum shall apply:
 - .1 ASME A17.1-2010/CSA-B44-10 Safety Code For Elevators, including latest supplements and Appendix E, Elevator Requirements For Persons with Physical Disabilities.
 - .2 The Ontario Building Code 2012 and the National Building Code Of Canada - 2010.
 - .3 CAN/CSA-B44.1/ASME A17.5 2011 Elevator and Escalator Electrical Equipment.
 - .4 CSA Standard C22.1 - 12 Canadian Electrical Code Part 1.
 - .5 EN 12016-1998 Electromagnetic Compatibility-Product Family Standards for Lifts, Escalator and Passenger Conveyers Part 2-Immunity.
 - .6 Occupational Health and Safety Act and Regulations for Construction Projects O.Reg.213/91 as amended by O.Reg. 631/94. R.R.O. 1990 Reg. 834.
 - .7 Technical Standards And Safety Act,2000 O.Reg 209/01 and O.Reg.155/97 Certification and Training of Elevating Devices Mechanics.
 - .8 CSA Standard B651-04 Accessible Design For The Built Environment.
 - .9 The latest copy of the TSSA Code Adoption Document.
 - .10 CSA Standard Z432-04 - Safe Guarding of Machinery.
 - .11 Occupational Health and Safety Act and Regulations for Construction Projects R.S.O. 1990, 2010 Edition.

1.11 General Conditions

- .1 Conform perfectly this work to that of the other trades. Errors, omissions or imperfections in this work will not be justified by errors, omissions, or imperfections of other trades or sub-contractors.

General Conditions - cont'd

- .2 Before beginning work, the successful Elevator Contractor shall submit for approval detailed drawings showing the complete layout of the elevator machine room, rope gripper fastening, all fixtures for car and corridors, and cab interior refurbishing. These drawings shall be reviewed by the Elevator Consultant before commencing installation. Appropriate drawings shall also be submitted to and approved by any Municipal or Provincial Authorities having jurisdiction. The Elevator Contractor is to completely survey the existing hoistways and machine room to facilitate the preparation of his drawings.
- .3 The Elevator Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expense for, or on account of, any unpatented or patented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the Owner unless otherwise specifically stipulated in the contract documents.
- .4 The erection of this equipment shall be performed by mechanics skilled and licenced in the installation of elevator machinery and elevator entrances. The Elevator Contractor shall provide adequate supervision of this work.
- .5 All Elevator Contractor's employees must be neatly dressed and shall wear uniforms or coveralls with company identification logos.
- .6 The Elevator Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising out of this contract. He shall make good any such damage, injury or loss, except such as may be directly caused by agents or employees of the Owner.
- .7 The Elevator Contractor shall remove all rubbish as fast as it accumulates. Keep the building and premises clean during the progress of the work, and leave the premises at completion in perfect condition as far as his work is concerned.
- .8 The Elevator Contractor shall visit and thoroughly survey the site to become familiar with the existing conditions. The Contractor will be responsible for the proper balancing of the elevator regardless of the existing conditions.
- .9 The Elevator Contractor shall not be liable for any loss, damage, or delay caused by acts of government, strikes, lockouts, riot, civil commotion, war, malicious mischief, acts of God or any cause beyond his reasonable control.
- .10 The Elevator Contractor performing work under the contract shall comply with all applicable provisions of all Federal, Provincial and local labour laws, and with all applicable union regulations contained in the union agreement.

General Conditions - cont'd

- .11 When required by the Owner, within three weeks after the award of the contract or letter of intent, the Elevator Contractor shall submit a completed Standard CCDC2 contract for the Owners approval. After the award and signing of the contract, all business relating to the work shall be transacted through the office of the Elevator Consultant unless otherwise provided therein.
- .12 The Elevator Contractor shall be registered with the WSIB. During the time this contract is in force, the Elevator Contractor shall carry premises liability insurance in the amount of \$5,000,000.00 inclusive, to be covered against any claims from damage to property or for personal injury, including death, which may arise from operation under this contract, whether such operation is carried out by the said Elevator Contractor or by any Sub-contractor or anyone directly or indirectly employed by either of them. Provide Owner with proof of insurance.
- .13 The Owner's insurance policy covers work and equipment actually in place in the building and approved and accepted by the Elevator Consultant. All material and equipment stored on the premises and not actually installed is not included in the Owner's policy and such material and equipment is stored at the Elevator Contractor's own risk. The Owner is not responsible to pay for any missing or stolen new non-installed elevator equipment.
- .14 Submission of bid will be considered presumptive evidence that bidder is conversant with local facilities and conditions, requirements of the documents and of pertinent provincial and local codes, state of labour and material markets and has made due allowance in his proposal for all difficulties. Should bidder's investigation of local codes or rules reveal stipulations contrary to the specifications, he shall advise the Elevator Consultant without delay. Should a bidder find any discrepancy in, or omissions from any of the specifications, or be in doubt as to their meaning, he shall advise the Elevator Consultant in writing. By submitting a bid, the bidder agrees that his bid is fully in accordance with the specifications.
- .15 Within three weeks after the award of the contract, the Contractor shall submit to the Elevator Consultant a copy of the progress payment schedule. No payments will be made until the schedule is reviewed and approved by the Consultant and the Owner.
- .16 The Elevator Contractor is to co-ordinate his work with the work of all other trades, in conjunction with his work.
- .17 The work will be thoroughly inspected by the Elevator Consultant during construction and upon completion.

1.12 Definitions of Terms

- .1 The term Owner, as used herein, refers to: **The National Research Council of Canada.**
- .2 The term "Elevator Consultant", as used herein refers to Priestman Neilson & Associates Ltd., 160 Paseo Private Nepean K2G 4N6, who when directed by The Owner, shall act as its agent.
- .3 The term Electrical Safety Authority, as used herein, refers to: The Electrical Inspection Authority in the Province of Ontario.
- .4 The term Elevator Contractor or Contractor, as used herein, refers to any person, partners, firm or corporation having a contract with the owner to furnish labour and materials for the execution of the work herein described.
- .5 The term sub-contractor, as used herein, refers to any person, partners, firm or corporation having a contract with the contractor to furnish labour and materials for the execution of the work herein described.
- .6 The term "refurbish", shall mean to carry out all labour or modifications to parts, etc, which will result in returning the original component to a "like new" condition. All refurbished equipment must be acceptable to the Consultant.
- .7 Where the terms "furnish" or "provide" are used, it shall mean to supply and install new equipment.
- .8 All terms in the specifications that are not otherwise defined shall have the definitions as given in the latest edition of the **B44-10** Safety Code For Elevators.

1.13 Payments

- .1 Progress payments will be made on a monthly basis based upon approval by the Consultant of progress claims submitted by the Contractor. Submit up to date WSIB certificates and Statutory Declarations with each progress payment.
- .2 All payments will be reduced by the 10% holdbacks required by the Construction Lien Legislation.
- .3 Approval for payment may be withheld if any of the following circumstances arise.
 - .1 No invoices will be approved or paid, until a completed copy of the TSSA Design **Application** has been forwarded to the Consultant.
 - .2 Failure to post a copy of the Contractor's Health and Safety "Lock out & Tag out" procedures in the machine room next to the mainline disconnect switch.

Payments - cont'd

- .3 Failure to notify the Project Manager of the "WORK BY OWNER" including emergency power transfer switch, fire alarm signals, machine room air conditioning provisions required for the elevator upgrade and the provisions of a dedicated phone line to the elevator hoistway or machine room.
- .4 Failure to provide CAD shop drawings and machine room layouts.
- .5 **Failure to work to the agreed upon schedule submitted at the beginning of the project.**
- .6 Damage to the building by the Elevator Contractor or his Sub Contractors.
- .7 Preventive maintenance not being carried out on the operating elevator as specified.
- .8 Defective work or deficiencies not corrected in an acceptable manner.
- .9 Failure to provide Operation and Maintenance Manuals and Maintenance Control Plan (MCP) before turnover of the elevator.
- .10 Failure to comply with the specifications and or performance criteria.
- .11 Final payment will not be approved until **ALL** deficiencies are corrected.
- .12 Failure of the Contractor to make payments as required to the sub-contractors, or for materials and labour.
- .13 Failure of the Contractor to provide the services of a licenced mechanic to assist with all TSSA and Consultants inspections until ALL deficiencies are corrected in an acceptable manner and the final certificate of completion has been provided.
- .14 Failure to submit the fully completed performance, automatic fire recall test and emergency power test data forms.
- .15 **Failure to submit to the Consultant the weekly progress reports.**
- .16 **A minimum of \$3,000 will be held back from the final invoice until all deficiencies are corrected in an acceptable manner.**

1.14 Bidders Compliance

- .1 Submission of the bid will be considered as presumptive evidence that the Bidder is conversant with local facilities and conditions, requirements of these documents and of the pertinent Provincial and local codes, state of labour and material markets and has made sufficient allowances in his proposal for all difficulties.
- .2 Should Bidder's investigation of the local codes or requirements reveal stipulations contrary to these specifications, he shall advise the Consultant in writing without delay. Should a Bidder find any discrepancy in, or any omissions from the specifications or tender documents, or be in doubt as to their meaning, he shall advise the Consultant in writing.
- .3 All Bids submitted are assumed to be in complete conformance with the specifications unless notification is given in writing before the Tender closes. The Bidder accepts all equipment in it's current condition.

1.15 High Buildings

- .1 In Buildings classified as "High Buildings" by the Ontario or National Building Code, the elevators are to comply with clause 3.2.6 of the Codes.

1.16 Non-Proprietary Controls

- .1 Provide an elevator control and drive system that is totally Non-Proprietary. Provide computer screen and keyboard as part of the control system.
- .2 The elevator control system shall not require any external Proprietary service tools for maintenance or adjustments.
- .3 The elevator control system shall be serviceable and maintainable by any qualified elevator maintenance provider capable of maintaining elevator equipment of similar design and complexity.
- .4 The Elevator Contractor is to provide all information, and special tools to the Owner that is required for the safe and efficient maintenance of the elevator equipment, including any solid state equipment, software or devices supplied under these specifications. The supplier is not to refuse any information, or the supply of parts, at fair market value, that is required by the Owner's Maintenance Contractor.
- .5 The Contractor is to permanently attach any service or diagnostic tool access code numbers to each controller at the completion of the project.
- .6 Any special tools, hand held devices, computers etc. required for the operation, testing, adjusting or setting parameters for the controller or car door operator must be left on-site in the machine room and will become the property of the Owner for future servicing and maintenance. All special tools are considered part of the elevator package.

1.17 Only Acceptable Control Manufacturer

- .1 GAL Manufacturing, Galaxy Control including a monitor in the machine room attached to the elevator controller door.

1.18 Only Acceptable Fixture Manufacturer

- .1 Dupar Controls INC.
- .2 All complete car operating panels, hall button fixture cover plates, and position indicator fixture plates must be manufactured by Dupar.

1.19 Only Acceptable Cab Refurbishing Contractors

- .1 ECR
- .2 AVT Beckett Elevator

1.20 Simplex Selective Collective Automatic Operation

- .1 Provide a micro-processor based selective collective control system.
- .2 Dispatch car to corresponding landing upon momentary pressure of car or hall call buttons.
- .3 Provide separate time delays for car and hall calls to enable passengers to enter or leave the car. Hold car for preset interval at landings where stops are made. Time delays to be adjustable from 0 to 15 seconds. Cancel interval upon registration of car call or pressure on door close button.
- .4 Stop car at landings for which car calls are registered. Make stops in order in which landings are reached, regardless of sequence in which buttons are registered.
- .5 If no car buttons are registered and car starts UP in response to several DOWN calls, proceed to highest DOWN call and reverse to answer other DOWN calls. Similarly, when car starts DOWN in response to several UP calls proceed to lowest UP call, and reverse to answer other UP calls.
- .6 If the car stops for a hall call and a car call is registered corresponding to the direction the car was travelling, proceed in same direction regardless of other registered landing calls.
- .7 If DOWN hall calls are registered while car is travelling UP, do not stop for these calls but allow calls to remain registered.
- .8 After highest car and hall calls have been answered, reverse car automatically and respond to DOWN car and hall calls.
- .9 When no hall or car calls have been registered for a period of sixty (60) seconds return elevator to the bottom landing and park with doors closed.

1.21 Next Floor Emergency Stop Feature

- .1 In the case of over speed due to maladjustment of equipment, stop elevator at next floor.

1.22 Firefighters' Emergency Operation

- .1 Provide MANUAL and AUTOMATIC "Firefighters' Emergency Operation" in accordance with Clause 2.27.3 of the B44 Code and the National Building Code of Canada. The designated level (FIRST floor) is sprinklered.

1.23 Fire Operation Panel

- .1 The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal and the operating instructions shall be grouped together at the top of a main car operating panel behind a locked cover.
- .2 The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch. The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
- .3 When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed. When closed, the cover shall be self-locking. Where rear doors are provided, buttons for both the front and rear doors shall be provided in the firefighters' operation panel. The door open and door close buttons for the rear entrance shall be labelled "OPEN REAR" and "CLOSE REAR."
- .4 All buttons and switches shall be readily accessible, located not more than 1800 mm (72") above the floor. The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 10 mm (0.4") high.

1.24 Firefighters' Operation Instructions

- .1 Instructions for the operation of the elevators on Phase I Emergency Recall shall be permanently incorporated adjacent to the "FIRE RECALL" switch at the designated level. The wording of the instructions shall comply with wording only as shown in figure 2.27.7.1 of the B44 Code.
- .2 Instructions for the operation of the elevators on Phase II Emergency In-Car Operation shall be permanently incorporated on the rear of the fire panel door, or adjacent to the operating panel in each car. The wording of the instructions shall comply with wording only as shown in figure 2.27.7.2 of the B44 Code.
- .3 The instructions shall be in letters not less than 3mm in height and shall be permanently installed and protected against removal or defacement.

1.25 Firefighters' Emergency Operation Key - FEO-K1

- .1 Provide a TSSA approved standard firefighters' operation key (FEO-K1).
- .2 The key shall be of a tubular type, 7-pin, style 137 construction and have a biting code of 6143521.
- .3 The same FEO-K1 key shall operate the elevator emergency power selector switch when provided, the fire recall switch and fire operation panel door.
- .4 The key switches shall comply with Clause 2.27.8 of the B44 Code and be of the Group 3 Security.

1.26 Independent Service Operation

- .1 Provide independent service operation by means of a toggle switch in the car to allow the car to operate independently in response to car calls only.
- .2 Park the car with the doors open, and respond to a selected car call by constant pressure on the door close button, provided, that the doors have been closed and the interlock is made-up. Arrange for the doors to reopen if the constant pressure on the door close button is released at any point prior to the car starting.
- .3 Place the direction of travel under the control of the attendant. Arrange the operation to cancel all registered car calls, and by-pass registered hall calls. Do not operate hall lanterns when stopping at a floor.

1.27 Elevator Performance

- .1 Provide smooth acceleration and deceleration of car without perceptible steps so as not to cause passenger discomfort.
- .2 Comply with all performance requirements as detailed in Part 3 of this specification.

1.28 Shop Drawings

- .1 Within four (4) weeks after the award of the contract or issuance of the letter of intent, submit five (5) - 11 x 17 copies of the shop drawings.
- .2 Indicate on shop drawings the following information:
 - .1 A layout of the elevator equipment located in the machine room including all retained and new equipment complete with dimensions and weight. Layout drawings must be prepared and stamped by a Registered Professional Engineer.
 - .2 Characteristics of the equipment located in the machine room including KVA rating of transformer and heat dissipation of equipment.

Shop Drawings - cont'd

- .3 The fuse type and amperage for the main line disconnect switch.
- .4 The specified temperature and humidity range requirements for the elevator equipment to ensure safe and normal elevator operation.
- .5 Fixture details showing materials and finish.
- .6 Car cab details in colour, indicating materials removed and added including the net weight added or removed.
- .7 Machine and governor guard drawings.
- .8 As part of the shop drawing submissions provide the requirements for the fire alarm modifications to the existing system to be carried out by the Owner. As a minimum, indicate the location of the smoke sensors, the contact arrangement (n/o or n/c) from the smoke sensors to the elevator machine room, the number and size of signal wiring to the machine room from the fire alarm panel.
- .9 **Submit a copy of the TSSA Design Submission Application with the final submission of the shop drawings. Design Submission to include a completed copy of the TSSA Cab Weight Alteration Worksheet.**

1.29 Record Drawings

- .1 Provide record drawings as required.
- .2 In addition, provide schematic wiring diagrams, including all changes made in final work, covering electrical and solid state equipment as supplied and installed, with a list of symbols corresponding to identification or markings on both machine room and hoistway apparatus.
- .3 All changes to the wiring diagrams must be marked up in RED and stamped by a Professional Electrical Engineer.
- .4 Provide a letter from a Professional Engineer confirming that the marked up drawings are complete and are "as built".
- .5 Neatly organize and **lamine all electrical drawings.**



1.30 Samples

- .1 Contractor to provide Owner with samples or product information of the following:
 - .1 Car and hall button fixtures and indicators
 - .2 Stainless steel selections
 - .3 Floor finish selections
 - .4 Plastic Laminate wall finishes
 - .5 False ceiling finishes
 - .6 Handrail selections

1.31 Operation and Maintenance Manuals

- .1 Provide all information necessary for the safe and efficient maintenance of the equipment and incorporate into the maintenance manuals. Provide two (2) sets of manuals. **One complete manual to be left in the elevator machine room and identified on the cover as MACHINE ROOM COPY.**
- .2 The maintenance data must include the following information:
 - .1 Description of system's method of lubrication, operation and control including, video monitor, motor control system, door operation, signals, fire-fighter's service, and special or non-standard features provided.
 - .2 As built schematic wiring diagrams covering electrical equipment as supplied and installed, including changes made in final work, with a list of symbols corresponding to identification or markings on both machine room and hoistway apparatus.
 - .3 The maintenance data must include the following information:
 - .4 Copies of Technical Standards and Safety Authority Design Submission and Final Inspection Report, Re-inspection reports, and a copy of the Warranty letter. Copies of the Electrical Safety Authority Inspections.
 - .5 The fully completed test data forms from the Contractor indicating the dates and the results of the automatic fire recall test from the building fire alarm system and where required, the emergency power test from the standby generator with full load in the elevator. The name of the elevator technician who carried out the tests will also be included in the affidavit. **The manuals will not be approved until this information is provided.**

Operation and Maintenance Manuals - cont'd

- .6 Parts catalogue giving complete list of repair and replacement parts with cuts and identifying numbers.
- .7 A copy of a Transmittal signed by Owner's Representative indicating that all tagged keys have been received by the authorized representative.
- .8 **Provide a site specific hard copy of the B44 Code Clause 8.6.1.2.1 detailed maintenance control program (MCP) as part of the manual submission. The MCP is to remain in the elevator machine room. The CECA designed MCP will be acceptable.**

1.32 Interim and Post Final Inspection Maintenance Program

- .1 The Contractor is to **include** the cost of the Interim and **post final inspection maintenance period** in his tender price. The interim maintenance period commences one (1) month after signing of the contract and the post final inspection period will terminate **THREE (3)** months after the issuance of the final certificate of completion and acceptance of the project.
 - .1 The three (3) month post final inspection period will be extended until the elevator equipment related callback frequency is reduced to two calls per month.
 - .2 The Elevator Maintenance Contractor will be required to submit monthly callback reports to confirm the callback frequency.
- .2 Perform all Tests and Examinations as required by Section 8.6 of the B44 Code, including any Supplements and the NRC maintenance specifications. The frequencies specified in this specification are a minimum. Should on-site conditions or manufacturers recommendations require more frequent procedures they shall be increased accordingly.
- .3 **During the interim, and post final inspection period, comply with the additional maintenance requirements listed below.**
- .4 **Include** the cost of the interim and **post final inspection** period maintenance in the base tender price.
- .5 Maintenance to include **monthly** systematic examination, cleaning, adjustment and lubrication of elevator equipment and the repair or replacement all defective parts due to normal wear and tear. Use only genuine parts produced by the manufacturer of the equipment.
- .6 Perform work at a minimum frequency of one visit per month; do not remove the unit from service during peak traffic periods.



Interim and Post Final Inspection Maintenance Program - cont'd

- .7 Provide call back service 24 hours per day, seven (7) days per week at no additional charge to the Owner.
- .8 Maintain locally, near the place of work, an adequate stock of parts for replacement or emergency purposes. Have qualified personnel under the supervision and in the direct employ of the contractor available to ensure fulfillment of this maintenance service without unreasonable loss of time.
- .9 Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of Owner.
- .10 Maintain in the elevator machine room one (1) copy of the schematic wiring diagrams covering electrical equipment as supplied and installed, including changes made in final work, with a list of symbols corresponding to identification or markings on both machine room and hoistway apparatus. Cover in plastic or laminate.
- .11 Provide in the elevator machine room a metal cabinet for the storage of approved lubricants and cleaning supplies. Provide a metal storage can for waste and oily rags.
- .12 Make all entries in the MCP in ink, legibly, consecutively and without blanks.
- .13 Computerized entries are not acceptable.
- .14 As part of the regular maintenance program, and at no additional charge to the Owner, carry out the **annual** Firefighters' Emergency Operation Test and complete the "Maintenance Checklist for Firefighters' Emergency Operation - Record of Inspection Checks" as required and described in TSSA Ruling Ref. No. 239/10 dated June 21, 2010.

1.33 Power Supply

- .1 The existing 600 Volt power supply will be retained. **Elevator Contractor to confirm power supply on site.**

1.34 Electrical Services Included in This Contract

- .1 The Elevator Contractor shall design his equipment to operate using the existing 3 phase power supply and feeder wiring size to the disconnect switch. The voltage supply may fluctuate by $\pm 10\%$.
- .2 The Elevator Contractor shall be responsible for providing a **SEPARATE** true earth ground, increased feeder wire size to the disconnect switch, shielding, or bonding as required to suit the new elevator equipment. The true earth ground wire is to be the same size as the feeder wires. The Owner is not responsible to provide these requirements.

Electrical Services Included in This Contract - cont'd

- .3 Any modifications carried out to the existing electrical systems relating to the elevator modernization project such as : new pit or machine room lighting-secondary level lighting-installation of GFI receptacles and all new wiring and piping from the mainline disconnect to the transformer must be carried out by a licensed electrician. The electrician must take out a Hydro permit before the work commences.
- .4 All electrical new or modification work is to be inspected by the Electrical Safety Authority at the completion of the work. A copy of the inspection report must be provided to the Consultant. The electrical Contractor is responsible to pay the costs of the permit and inspection fees.
- .5 At the completion of the project the Elevator Contractor will be responsible for the testing and verification of the fire alarm system with the existing fire alarm contractor.

1.35 Warranty

- .1 Warrant that the materials, the performance and workmanship are first class in every respect and make good any defects not due to ordinary wear and tear or improper use, which may develop within one (1) year from the date of final acceptance of the equipment by the Consultant.
- .2 Warrant that the equipment performs to the standard set out herein.
- .3 The use of the elevator during the construction period shall not affect this warranty.
- .4 Neither the final payment nor any provision of the Contract documents relieves the Contractor of the responsibility for negligence or faulty materials or workmanship within the extent and period provided by law.
- .5 Upon written notice remedy any defects and pay all expenses for any damage to other work resulting from the defects.

1.36 Markings

- .1 No trade marks shall appear on any piece of equipment visible to the general public.

1.37 Use of Elevators For Persons with Physical Disabilities

- .1 Comply with the requirements of Appendix E of the B44 Code and all other governing codes and regulations.
- .2 Provide raised character and braille floor designations on both jambs of the entrance frames at all floors. Provide a raised star to the left of the floor designation symbol on both jams at the main entry level. All characters to be 50mm high.

1.38 Occupied Premises and Barricades

- .1 Take into consideration the fact that this is an occupied building and must continue to function during the course of the modernization with a minimum of disruption.
- .2 The Contractor's employees shall be courteous to the occupants and abide by the same building rules and regulations required of the occupants.
- .3 All work must be performed in a manner that ensures the safety of the occupant and the user of the operating elevators. Should it be necessary to perform work where such safety cannot be ensured, it shall also be performed at a time acceptable to the Owner and during hours other than normal building business hours at no additional cost to the Owner.
- .4 Where required, temporary hoarding shall be provided as required between hoistways to protect both the elevator mechanics and passengers from falling objects and debris.
- .5 All hoarding shall be removed at the end of the installation.
- .6 Provide barricades as required to protect the Public from hazardous conditions. Obtain Owners approval for the appearance of all barricades erected.
- .7 At the end of each day the work area is to be completely cleaned up. Do not leave any construction materials or equipment visible to the tenants.

1.39 Schedule and Cost Breakdown

- .1 Within three (3) weeks after the **signing** of the contract, submit to the Consultant for approval, a bar chart schedule indicating anticipated progress stages for the project.
- .2 Include in this schedule, the following information:
 - .1 Submission of shop drawings after award of contract
 - .2 Submission of TSSA Design Submission Application
 - .3 Material delivery lead time
 - .4 Date of removal of the elevator from service for modernization
 - .5 Hoisting of new equipment to machine room and removal of redundant machine room equipment
 - .6 Installation of new machine room work including deflector sheave where required
 - .7 Installation of hoist and governor ropes
 - .8 Set-up elevator to run on temporary inspection
 - .9 Installation of new car and counterweight roller guides or refurbishing of existing guides
 - .10 Travelling cable and hoistway wiring
 - .11 Installation of hoistway door equipment
 - .12 Installation of car top wiring and levelling devices

Schedule and Cost Breakdown - cont'd

- .13 Cab Renovations
 - .14 Removal of existing and installation of new safeties under the car
 - .15 Installation and wiring of car station and hall fixtures
 - .16 Installation and refurbishing of pit equipment
 - .17 Total modernization time
 - .18 Final adjusting time
 - .19 TSSA Inspection
 - .20 PNA Acceptance Inspection
 - .21 Correction of PNA deficiencies
 - .22 The date of completion of all work
- .3 During the course of the modernization submit a **WEEKLY** progress report to the Consultant indicating the tasks and percentage of work completed for labour and material. **The reports are also to indicate the dates that the Project Manager was advised of the "WORK BY OWNER". Failure to submit this weekly report will delay the payment of the progress claims.**
- .4 Submit a cost breakdown, indicating the percentage / dollar amounts of the costs for the items listed below as a minimum.
- .1 Engineering and TSSA submittals(maximum 5%)
 - .2 Equipment Manufacturing Costs (maximum 10%)
 - .3 Interim Maintenance Costs
 - .4 Building related work
 - .5 Total Labour
 - .6 Machine work, controller and drive
 - .7 Electrical Contractor work
 - .8 New under car safeties
 - .9 Hoistway door equipment and wiring
 - .10 Hoist ropes, governor ropes and fastenings
 - .11 Fixtures
 - .12 Cab interior work
 - .13 Machine room equipment guarding
 - .14 Adjusting and TSSA inspections
 - .15 Operation and Maintenance Manuals
 - .16 Correction of deficiencies (\$3,000)
- .5 Provide one week's notice prior to the completion of the elevator and the date anticipated for the inspection.
- .6 Review and update the work schedule as the completion of the work progresses and notify the Consultant in case of modification.

Schedule and Cost Breakdown - cont'd

- .7 If the work falls behind the schedule, take action as necessary to meet the schedule, including, but not limited to, extra personnel and overtime work, at no additional cost to the Owner.
- .8 Pay costs associated with this action unless the delay is caused by strikes, acts of government, riot, civil commotion, war, malicious mischief, act of God or any causes beyond the control of the contractor.

1.40 Preliminary Details

- .1 The Contractor shall submit, within 15 working days after award of the contract, all information and details required for the work to be performed by others in conjunction with the modernization of the equipment.
- .2 Within two months after award of contract, or receipt of letter of intent, provide Consultant with a copy of the TSSA Design Submission Application.

1.41 Health and Safety Requirements

- .1 Comply with the Province of Ontario Occupational Health and Safety Act and Regulations for Construction projects R.S.O. 1990, June 2002.
- .2 Comply with requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials; and regarding labelling and the provision of material safety data sheets acceptable to Labour Canada.

1.42 Powder Actuated Fastening Devices

- .1 Do not use powder actuated tools using explosives, unless permitted expressly by the Consultant; comply with the requirements of CAN3-Z166.2-M85. (Use and Handling of Powder Actuated Tools.)

1.43 Overtime Work Included

- .1 Carry out any odour or noise generating work such as interior painting, all welding, core drilling, jack hammering, saw cutting, grinding at a time which is acceptable to the Owner. Thoroughly ventilate areas painted during "off hours".
- .2 Contractor to include for all overtime work carried out after normal elevator industry working hours.
- .3 The switch over from the old hall buttons to the new buttons must be carried out between the hours of 12 AM to 6 PM and with the Owner's approval. Include for this overtime work.

1.44 Technical Seminar

- .1 Upon completion of the work, arrange with the Consultant to provide a seminar for the Owner's staff.
- .2 The seminar shall include a complete review of all documentation, operation of equipment, and demonstration of special features. Allow a minimum of two (2) hours for the seminar.
- .3 Provide the Consultant with written proof that this seminar has taken place and the date of the seminar and the name of the Contractor's representative who conducted the seminar.

PART 2 - PRODUCTS

2.1 Components - Replaced and Retained

- .1 The following **major** components shall be replaced with new equipment as specified herein.
 - .1 Controller and selector
 - .2 Hoist motor
 - .3 Rope Brake
 - .4 All wiring and travelling cables
 - .5 Overspeed Governor and Governor Rope
 - .6 Car door operator
 - .7 Car door detectors
 - .8 Top of car control box
 - .9 Car and Hall Operating Fixtures
 - .10 Geared Machine
 - .11 Governor tension sheave in pit
 - .12 Under car drum type safeties
 - .13 Car top hitch plate
 - .14 Hoistway levelling device
 - .15 Hoistway door locks and pickup assemblies
- .2 All other equipment whether specifically mentioned herein or not, may be retained by the Contractor. If retained, it shall be thoroughly refurbished, cleaned, painted and tested as required to ensure safe and proper operation and compliance with the B44 Code including all Supplements and Appendix E, Elevator Requirements For Persons with Physical Disabilities.

2.2 Basic Materials and Design

- .1 Include basic materials as follows:
 - .1 Sheet steel: to ASTM A366M, cold-rolled sheet, commercial quality.
- .2 All materials and equipment shall be new. Furnish samples as directed by the Consultant.
- .3 Where practical and subject to approval provide concealed fastenings hidden from public view and designed to withstand normal use.
- .4 Use major elevator components from standard product line of one manufacturer unless otherwise approved by the Consultant. Major components include motors, controllers, solid state drives, and control systems.



2.3 Wiring, Conduit and Fittings

- .1 Provide all new B44 Code approved insulated wiring to connect all parts of the equipment including all wiring in hoistway, car top and car enclosure. Existing duct or conduit conforming to current CSA/ C22.1 CEC Code may be used.
- .2 Install all new wiring according to prevailing CEC Code requirements.
- .3 Provide insulated wiring having a flame retarding and moisture resisting outer cover. Run the wires in metal duct or conduit.
- .4 Provide and connect all hoistway wiring, travelling cables, car wiring, etc., and all remote alarm indicators or other similar items, from the device to terminal blocks mounted and identified on the controller.
- .5 Provide a separate junction box, mounted on the side of the controller in the machine room, with terminals for the connection of "non elevator" devices, such as telephones, card reader interface and connect from the elevator controller to this junction box, as required.
- .6 Provide ten percent (10%) additional minimum spare wires.
- .7 Connect all wires from one live device to another live device, (e.g. from car operating panel to controller) to car terminal blocks and controller terminal blocks.
- .8 Check all wires, including spares, for continuity and grounds, and mark each wire by a number and each group as to destination.
- .9 Mark all connections on intermediate terminal blocks with corresponding numbers.
- .10 Where provided, ensure all flexible conduit is aluminum type.
- .11 Mark all individual wires by numbered waterproof markers.
- .12 Identify wires of multi-wire cables by colour code.
- .13 Label all terminal and junction boxes as to their function with permanently attached waterproof labels.
- .14 Label group of wires and multi-wire cables and mark all terminals with waterproof markers.
- .15 Provide stranded field wire with no splices.
- .16 Attach to each controller a legible list, neat and waterproof, showing wiring runs, colour codes and numerical codes.

Wiring, Conduit and Fittings - cont'd

- .17 Provide a supplementary, shielded cable running from machine room to the elevator, containing a least 2 pairs of shielded wires for eventual connection of security video camera. **Terminate the wiring in a 20 x 20 box on the car top, permanently and legibly identified as camera wiring.**
- .18 Do not use armoured flexible metal conduit as grounding conductor. Provide a separate ground wire in all flexible metal conduit where grounding is required.
- .19 Limit the use of flexible conduit on the car top to items that require movement or periodic adjustment. Excessive use of flexible conduit will be rejected.
- .20 All flexible conduit that rests on the car top must be installed in a uni-strut which is at least the same height as the conduit.
- .21 Provide a separate identified green ground wire to all switches and components connected by flexible conduit, such as, but not limited to, hoistway door locks, car gate switch, hall and car push buttons and limit switches.
- .22 All grounding or bonding conductors shall have a continuous outer finish that is green or green with one or more yellow stripes.
- .23 Comply with TSSA Enforcement Procedure Bulletin Ref.No. 222/07 relating to proper grounding procedures.
- .24 The conductors to the hoistway door locks shall meet the requirements of Rule 2-126 and Clause 38-011 of the Canadian and Ontario Electrical Safety Codes. The wiring must be rated for 200• centigrade and be of the SF type or equivalent.
- .25 Neatly tie up or lace up and identify all spare wires in the controller.
- .26 Do not run any wiring or conduit on the pit floor. Install all wiring and conduit a minimum 600 mm (24") above pit floor. Securely fasten and brace any conduit which runs across the hoistway above the floor.

2.4 Travelling Cables

- .1 Replace all travelling cables with new B44 Code approved flexible travelling cable designed specifically for elevator use.
- .2 Terminate cables on terminal blocks having identifying numbers to facilitate replacement and service.
- .3 Provide travelling cable with flame retarding and moisture resisting outer covers.
- .4 Suitably suspend the travelling cables to relieve strain in the individual conductors, (using a steel supporting strand with appropriate supports if the suspended weight exceeds 34 kg).
- .5 Provide ten percent (10%) additional minimum spare wires in each travelling cable.
- .6 Provide in the travelling cables, at least three (3) twisted pairs, shielded wires for audio, video or other electronic equipment.

2.5 Lubrication

- .1 Include means of lubricating bearings, requiring periodic lubrication.
- .2 When used, provide all grease fittings to fit same gun.
- .3 Provide visible and easily accessible lubrication points.

2.6 New Roller Guides

- .1 Completely replace the existing car and counterweight roller guides.
- .2 Provide new ElSCO or GAL spring loaded type car and counterweight roller guides. Rollers shall be minimum 150mm for the car and 75mm for the counterweight.
- .3 Provide each guide with durable, oil resistant and resilient rubber tired ball bearing rollers to run on three finished rail surfaces.
- .4 Maintain each roller on its respective guide in uniform contact with rail surface at all time by means of substantial springs or by flexible mounting.
- .5 Provide guide operation, which is inaudible to passengers in the car or outside of the hoistway with the car operating at rated speed and car fan turned off.
- .6 Use roller tire material which will not develop flat spots after standing idle for 24 hours under average environmental conditions.

2.7 Suspension Ropes and Fastenings

- .1 Provide new steel wire rope constructed for elevator service, equal in design and type as those provided by the original manufacturer, for the suspension of the elevator car and counterweight.
- .2 Ropes installed on any one elevator, shall be from the same factory production run.
- .3 Provide approved type wedge socket wire rope fastenings.
- .4 Provide individual compression springs on counterweight end to equalize tension in ropes.
- .5 The returned end of the wire ropes on wedge clamp fastenings are to be secured with two (2) retaining clips. The first clip is to be set approximately 50 mm (2") above the top of the wedge clamp, the second clip at 100 mm (4") above the first clip. The end of the wire rope is to be bound and tied or taped to prevent injury.
- .6 Provide minimum 9mm diameter metal anti-rotation devices to secure all terminations after installation to prevent rotation of fastenings in hitch plates.
- .7 Lang lay hoist ropes are not acceptable.
- .8 Provide a minimum of six (6) 16mm diameter ropes.



2.8 Car Top Hitch Plate

- .1 Remove existing car top hitch plate.
- .2 Install new steel hitch plate, securely bolted to underside of car crosshead.
- .3 Thickness of hitch plate and method of fastening to comply with Clause 2.15.13 of the B44 Code.

2.9 Guide Rails and Fastenings

- .1 Thoroughly clean down car and counterweight rails.
- .2 Check rail alignment and plumb same within maximum variation of 1.6mm over any 6.1m section.
- .3 Check all fastenings to ensure secure and solid attachment of rails.

2.10 Intermediate Beams

- .1 Check all intermediate beams and advise Consultant of any defects noted. Repair as required.

2.11 Sheaves and Supporting Beams

- .1 Thoroughly clean off and examine all supporting beams.

2.12 Buffer Channels and Supports

- .1 Retain and refurbish existing car and counterweight buffer channels and supports.
- .2 Thoroughly wire brush, clean and paint all pit steel with rust resistant black paint.
- .3 Replace any worn or badly rusted components.

2.13 Spring Buffers

- .1 Retain and refurbish existing spring buffers. Ensure buffer springs are securely fastened in place.
- .2 Replace any worn or faulty buffers.

2.14 Counterweight

- .1 Retain and Refurbish the existing counterweight, thoroughly clean off and examine the frame, bolts, and fastenings for tightness and excessive wear.
- .2 Re-balance counterweight to equal the weight of the complete elevator car cab, frame and platform plus 40 to 42.5% of the contract load.
- .3 Check runby and post sign in the vicinity of the counterweight buffer indicating the maximum designed runby for this installation.
- .4 Provide separate steel retaining guides to prevent the counterweight from leaving the guide rails in event that the roller guide assemblies leave their attachments. The retaining arrangement is to be fastened to the counterweight frame independent of the primary guiding means. Paint new retaining guides YELLOW.
- .5 Paint complete counterweight Yellow in colour.

2.15 Car Free-Fall Safety

- .1 Completely remove the drum type safeties under the car.
- .2 Provide new safeties under the car designed to release when the car moves in the UP direction.
- .3 Provide an approved type SOS switch under the car.
- .4 Remove the existing aluminum access cover to the drum safeties on the car floor. Permanently plug the redundant hole and supply and install new flooring to Owner's approval. Cover underside of redundant hole with tin similar to existing platform covering.
- .5 Perform full load overspeed test in the presence of the Consultant or Inspector.

2.16 Open Door Inspection Operation

- .1 Provide in each controller switches marked "CAR DOOR BYPASS" and "LANDING DOOR BYPASS".
- .2 Provide circuitry that will prepare the control system so that, when an inspection operation is activated, the car may be moved with open door contacts in accordance with clause 2.26.1.5 of the B44 Code.

2.17 Top of Car Inspection Operation

- .1 Provide new Top-Of-Car Inspection operation with open door circuits in accordance with clause 2.26.1.4.2 of the B44 Code.

2.18 Door Circuit Monitoring System

- .1 Provide means to monitor the position of the car doors while the car is in the landing zone in accordance with clause 2.26.5 of the B44 Code.

2.19 Car Overspeed Protection

- .1 Provide means to prevent a car from over speeding in the ascending direction of travel in accordance with clause 2.19.1 of the B44 Code. Include all materials and labour required, either for or as a result of the mounting and installation of the device.
- .2 Detect any uncontrolled movement of the car prior to or, at a minimum, at the time when the car reaches a predetermined overspeed, and cause the car to stop prior to the time when the counterweight strikes its buffers, or at least reduce the car speed to the speed for which the buffer is designed.
- .3 Device to be capable of performing as required without assistance from any elevator component that solely, without built-on redundancy, controls the speed, or deceleration, or stops the car during normal operation.
- .4 Device required to perform this function must apply pressure to the hoisting ropes not the drive sheave.
- .5 Provide a new Hollister Whitney **Geared** rope brake. Alternative devices will not be acceptable.

2.20 Car Uncontrolled Low Speed Protection

- .1 Provide means to prevent any uncontrolled movement of the car in accordance with clause 2.19.2 of the B44 Code.
- .2 Detect any uncontrolled movement of the car before the car travels away from the landing by more than 500mm and bring the car to a full stop before it travels an additional 750mm.
- .3 Device to be capable of performing as required without assistance from any elevator component that solely, without built-on redundancy, controls the speed, or deceleration, or stops the car during normal operation within the levelling zone.
- .4 Device required to perform this function must apply pressure to the hoisting ropes not the drive sheave.
- .5 Provide a new Hollister Whitney **Geared** rope brake. Alternative devices will not be acceptable.

2.21 Car Overspeed Governor and Rope

- .1 Provide a new Hollister Whitney overspeed governor.
- .2 Provide a new governor tension sheave in the pit.
- .3 Provide a **new** governor rope.

2.22 Geared Traction Machine

- .1 Remove existing machine and install new machine.
- .2 Provide traction type Hollister Whitney or Titan single wrap geared machine with 1:1 roping arrangement.
- .3 Geared machine to consist of an AC motor, electromechanical brake, steel worm, bronze gear, steel sheave shaft and traction sheave mounted in proper alignment on a suitable bed-plate.
- .4 Provide reversible AC motor with high starting torque and moderate starting current, specifically designed to meet the severe loads encountered in elevator service. Provide motor with a slip specification of 5% or less, or a NEMA rating of "A" or "B".
- .5 Provide not less than one (1) megohm insulation resistance between motor windings and motor frame.
- .6 Worm to be manufactured from annealed or stress relieved steel, accurately machined, ground and provided with a single end, double race and ball bearing thrust. Gear to be manufactured from a phosphor bronze rim, accurately cut, fitted and bolted to a cast iron spider.
- .7 Design to permit removal of thrust unit without dismantling machine.
- .8 Include means for lubrication and provide oil tight inspection ports for worm gear face, gear contact and gear mounting bolts.
- .9 Fabricate traction sheave from mehanite cast iron properly grooved for the cables and demountable from the gear sheave spider.
- .10 Design brake to be spring applied, electromagnetically released and quietly operated by direct current. Design and adjust for holding the car cab with 125% of the rated load. Impregnate winding with insulation and bake to prevent absorption of moisture and oil.

Geared Traction Machine - cont'd

- .11 Design and adjust the machine so that when running at contract speed, vibrations shall not exceed a reading in excess of 0.3 mm (1/64") taken at the end of the drive motor. The total back lash of the gear and the end play of the worm shall not exceed 0.178 mm (.007") as measured with balanced load plus 90 kg and balanced load minus 90 kg.
- .12 Mount the machine on machine beams supplied by the manufacturer and sufficient rubber pads so as to reduce to a minimum, the transmission of noise and vibration of the machine to the building.
- .13 If the geared machine requires disassembly to be transported to the machine room, all removed components must be dowed before dismantling. The motor must be re-aligned by the manufacturer of the machine, or a local machine shop before the elevator is returned to service. Notify Consultant of date and time of re-alignment, or provide a written report from the machine shop or the manufacturer of the machine.

2.23 Limit Switches

- .1 Replace all slowdown and final limit switches. Provide new switches.
- .2 Dowel all new final limit brackets to the rails.

2.24 Direct Current Supply

- .1 Provide rectifiers to supply direct current for elevator machine brake, control and operating equipment.

2.25 Variable Voltage Variable Frequency Control

- .1 Provide a variable voltage variable frequency, flux vector control system designed for a three phase AC induction motor.
- .2 Provide closed loop tachometer feedback control. Continuously monitor the elevator speed signal from the velocity transducer and compare it with the intended speed signal to verify proper and safe operation of the elevator and to correct the actual speed to match the intended speed.
- .3 Provide stepless acceleration and deceleration and smooth operation at all speeds. Drive to perform trouble-free within $\pm 10\%$ of building supply voltage fluctuation.
- .4 Use a three-phase, full wave bridge rectifier and capacitor bank to provide a DC voltage bus for the solid-state inverter.



Variable Voltage Variable Frequency Control - cont'd

- .5 Use power semiconductor devices and pulse width modulation, with a carrier frequency of not less than 10 kHz, to synthesize the three-phase, variable voltage variable frequency output to operate the hoist motor in an essentially synchronous mode.
- .6 The drive shall not create excessive audible noise in the elevator motor.
- .7 Provide capability of being adjusted or programmed to achieve the required motor voltage, current, and frequency, in order to properly match the characteristics of the AC hoist motor. A.C. motor to have a slip specification of 12% or less, or a NEMA rating of "D".
- .8 Provide a heavy duty type drive, capable of delivering sufficient current required to accelerate the elevator to contract speed with rated load and be able to maintain a 180% to 200% current overload for 3 seconds and a 150% current overload for 60 seconds. Equip drive with an electronic automatic stall prevention and voltage boost to prevent nuisance tripping during load or line transient conditions.
- .9 Provide means for removing regenerated power from the drive's DC power supply during dynamic braking. This power shall be dissipated in a resistor bank, which shall be an integral part of the controller. Failure of the system to remove the regenerated power shall cause the drive's output to be removed from the hoist motor.
- .10 Provide a contactor to disconnect the hoist motor from the output of the drive unit each time the elevator stops.
- .11 Open all power feed lines to the brake by an electro-mechanical switch. A single ground, short circuit or solid-state control failure shall not prevent the application of the brake.
- .12 Arrange to continuously monitor the performance of the elevator in such a way that if the car speed exceeds 0.75 m/s during inspection operation or levelling, the car shall shut down immediately. Provide manual resetting.
- .13 Drive system to be capable of providing a braking pulse to use in the stopping sequence of the elevator. The braking pulse shall take the form of an adjustable DC current pulse applied to the AC motor for an adjustable period of time, i.e. 0 to .75 seconds.
- .14 The drive shall have the capability of being programmed with different volts per hertz patterns, which can be used to adjust the drive characteristics.

Variable Voltage Variable Frequency Control - cont'd

- .15 Provide a multi-functional diagnostic display in each drive. Display the following as a minimum:
 - .1 Line power loss
 - .2 Instantaneous over current
 - .3 Ground fault
 - .4 Over voltage
 - .5 Under voltage
 - .6 Regeneration overload
 - .7 High temperature, both motor and control
 - .8 Circuit defect in drive unit
 - .9 Loss of motor field
 - .10 Soft start fault
 - .11 Torque proving fault
 - .12 Over speed
 - .13 Faulty phase
 - .14 Open brake resistance
 - .15 Amperage

2.26 Automatic Self-Levelling Feature

- .1 Provide an automatic self-levelling device which will automatically bring car to within 6.35mm or better, above or below the landing sill.
- .2 Compensate for overtravel or undertravel and bring car level to landing sill.

2.27 Governor Overspeed Switch

- .1 Provide a governor overspeed switch to comply with Clause 2.18.4 of the B44 Code.

2.28 Controllers and Cabinets

- .1 Remove existing controllers and cabinets and provide new controllers enclosed in enamelled, ventilated, sheet steel cabinets. Include hinged doors for easy access.
- .2 Provide contacts to insure maximum conductivity with a wiping action to prevent sticking and fusion.
- .3 Provide electronic time delay devices which employ stable capacitors or crystals as time base.
- .4 Wiring on the controller, whether control or field wiring, must be done in neat, workman like order and all connections made to studs and terminals by means of grommets or similar connections.
- .5 All relays, contactors, fuses and printed circuit board components, etc., shall be clearly marked by means of tags not easily removable.

2.29 Computing Devices

- .1 Isolate the inputs to micro-processors from external devices (such as push-buttons) and isolate the outputs to external devices (such as indicators) by means of relays or optical devices.
- .2 Provide the control program on read-only-memory with a minimum of 40% spare capacity, to allow for future programming modifications and extension.
- .3 Provide for separate regulated power supplies to serve each micro-processor system.

2.30 Selector

- .1 Replace existing mechanical selector with a hoistway car position system, electrically coupled to the controller.
- .2 Design system to provide the controller with precise information as to the absolute position of the elevator within the hoistway.
- .3 Provide solid state devices, pulse generators, or magnetic switches, in combination with a fixed steel tape, for position and direction indication, speed reduction, levelling, door zone and related signals.
- .4 Do not use electro-mechanical stepper switches.
- .5 Design the unit so that the parts are readily accessible for replacement and adjustment.

2.31 Hoistway Switches

- .1 Hoistway switches shall be silent in their operation and inaudible to passengers in the car with the fan turned off.

2.32 Solid-State Hardware

- .1 Mount solid-state devices, except for high power silicon controlled rectifiers and rectifiers, on removable printed circuit boards.
- .2 Gold plate the contact points of edge connectors.
- .3 Provide plated through holes for double sided boards.
- .4 Make all connections to the printed circuits on the printed circuit boards by means of properly dimensioned pads.
- .5 "Patched" connections will not be accepted.
- .6 Design solid-state devices for a high load of noise immunity.
- .7 Incorporate electrical noise suppression devices in the power supplies and the inputs and outputs associated with the solid-state circuits.

2.33 Control Circuit Grounding

- .1 Arrange the control circuits so that one side of the control power supply for external circuits is grounded to facilitate testing and trouble shooting.

2.34 Hoistway Doors

- .1 **Completely remove the existing rear hoistway doors at the ground floor rear.** Provide complete new doors, with no vision panels, same size and thickness as existing. Provide Code required UL rating for the doors. Paint new doors and frame to match colour of all front entrances. Existing sill closer may be retained and refurbished.
- .2 Check and adjust all doors to ensure doors will close smoothly and quietly, with the closing mechanism released and regardless of their position on the track, when a 2.7 kg horizontal force is applied at mid height on the door in the horizontal motion.
- .3 Provide **new** approved top and bottom hoistway door retainers for the **LEADING** door only.
- .4 Replace all worn or loose lower guides on each door.
- .5 Check and tighten all loose sight guards.
- .6 Check all doors for broken welds. Refurbish as required.
- .7 Make hoistway doors open fully at all floors.
- .8 Replace all plastic door rollers with steel rollers with nylon inserts.

2.35 Hoistway Door Landing Identification

- .1 Paint 100 mm numerals on hoistway side of hoistway doors and fascia plates to identify floor level.

2.36 Hoistway Access Device

- .1 Provide at bottom and top landings new keyed hoistway access switches in accordance with Clause 2.12.7.1 of B44 Code.
- .2 Provide stainless steel faceplates to cover any redundant access switch fixtures.
- .3 Locate switch in hall door sight guard or hall button fixture and engrave "Hoistway Access" with direction arrows on face plate. Include enable switch in service panel. A separate access fixture is also acceptable.
- .4 Provide hoistway door unlocking devices at every landing as per clause 2.12.6.1 of B44 Code. Provide stainless steel collars for all lunar key holes. Securely maintain collars in place.

2.37 Hoistway Door Sills & Frames

- .1 Retain existing sills, thoroughly clean and check for secure fastening.
- .2 Check all door frames for secure fastening to building. Take corrective action where required.
- .3 **Scrape and paint all metal hoistway door sills with black gloss machinery paint.**

2.38 Painting

- .1 All necessary touch ups for damages caused during handling of the equipment are to be made on site.
- .2 All paint to be approved by the Owner.

2.39 Painting of Doors and Frames

- .1 Thoroughly clean, scuff, sand, and feather out all chips and scratches for adhesion and final finish. Chemically wash surfaces to remove grease, oil, and other contaminants.
- .2 Provide a smooth finish, free of laps, sags, runs, and pin holes. Back lap all edges to achieve full coverage.
- .3 Use coating unadulterated except where manufacturer's printed instructions specify otherwise. Mix thoroughly in accordance with manufacturer's instructions and maintain sufficient agitation during application to prevent separation of ingredients.
- .4 **Paint Hoistway doors and frames at all floors including rear opening. Colour choice by Owner.**

2.40 Hoistway Door Entrance Assemblies

- .1 Check all entrance assemblies for proper and secure fastening to the building structure. Check for broken welds. Repair where required.
- .2 Securely fasten any loose entrance assemblies.

2.41 Fascias

- .1 Check fastenings, clean and paint all fascias black in colour.



2.42 Hoistway Door Hangers, Tracks, Locks and Closers

- .1 Retain and refurbish existing door hangers and tracks.
- .2 Retain and refurbish the existing GAL sill closers.
- .3 Replace all worn, noisy or plastic hoistway door rollers to provide a smooth and quiet operation.
- .4 Provide complete **new GAL** door locks.
- .5 Provide **new** hoistway door lock beak contacts.
- .6 Provide auxiliary closers for multi section hoistway doors.
- .7 Provide new GAL pickup roller assemblies.
- .8 Dowel all door pickup roller assemblies after final adjustment.

2.43 Car Door Hangers and Track

- .1 Provide new car door hangers and tracks for front and rear doors.
- .2 Provide **new** rollers for car door hangers.
- .3 Adjust rollers and eccentrics to provide smooth and quiet operation.
- .4 Provide auxiliary closing devices for the multi section car doors.

2.44 Car Door Operators

- .1 Remove the existing **front and rear** car door operators. Provide a new **GAL MOVFE 2500-HH** closed loop heavy duty car door operator for the **front doors** and a **GAL MOVFR** closed loop operator for the rear doors. Provide new car door clutches as required.
- .2 Adjust the operator for smooth and quiet operation. Adjust car door eccentrics for minimum clearances.
- .3 Arrange operator or car door to comply with Clause 2.12.5 of B44 Code.
- .4 Provide a **new GAL** gate switch for the leading car door panel. Switch to be operated by a roller attached to each door panel. Provide a separate green ground wire to the switch.
- .5 The flexible conduit from the car door operator motor to the control box must be installed in a metal uni-strut to protect against obstructions on the car top. Uni-strut must be higher than the flex.
- .6 Provide a car door restricted opening device as per B44 Code requirements.

2.45 Infrared Proximity Detector

- .1 Provide on the **front** doors a new **Panachrome** proximity detector of a minimum 150 infrared beams equally spaced. Provide a **Formula Systems** detector on **rear** doors.
- .2 Detector to protect the full door opening, such that a person or object passing through the car entrance causes the doors to re-open.
- .3 The zone of protection shall extend from 12.7 mm above the sill to a minimum height of 1500 mm, on each car door panel.
- .4 Device to be reliable and consistent in operation, not affected by humidity or temperature changes and have inherent long term reliability with minimum maintenance.
- .5 Upon failure of the device, shut the car down at the next available floor, with the doors in the fully open position.
- .6 **Include one additional complete spare Panachrome proximity detector to be left in the elevator machine room for future use and servicing.**

2.46 Reduce Speed Door Closing

- .1 Should the doors be held open by the "proximity detector" for more than 20.0 seconds, sound a buzzer and reduce the door closing kinetic energy to 3.5 j. Time delay to be adjustable.

2.47 Car Frame, Platform and Sill

- .1 Inspect complete car frame and platform to ensure all bolts are in place and tight and that hoist rope hitches are secure.
- .2 Provide One new **nickle silver** sill for the **front entrance only**.
- .3 Scrape and paint the toe guard black in colour.
- .4 **Paint the bottom angled portion of the toe guard yellow with angled black stripes.**

2.48 Top of Car Operating Device Equipment

- .1 Provide a **new** stationary top of car control box with an alarm bell designed to operate on normal and emergency power, GFI duplex receptacle, and work light.
- .2 Provide a new **moveable hand held** top of car operating device. Provide an operating fixture with a sufficient length of cord to ensure safe operation from all areas of the car top. Provide means to securely store the fixture on the car top when the unit is not in use. Paint the storage unit yellow in colour.



2.49 Top of Car Safety Railing

- .1 Retain and reuse the existing car top railing. Modify to CAD requirements if necessary.

2.50 Alarm Bell

- .1 Provide an alarm bell located on the car designed to operate under permanent and emergency power conditions.
- .2 Alarm button in cab to illuminate **only** when pressed.

2.51 Front and Rear Car Doors

- .1 Retain existing car doors, and re-clad doors with Avesta stainless steel Deco 1 pattern. Provide **TWO (2) new lower guides** on each door panel.
- .2 Adjust car doors for quiet and smooth operation.
- .3 Adjust clearance between doors and frames to be no more than 9mm.

2.52 Car & Counterweight Weighing

- .1 **When a cab interior upgrade is being carried out comply with TSSA Director's Order Reference No. 171/2002.**
- .2 **Prior to the start and at the completion** of the alteration, weight car and counterweight separately. Record both weights.
- .3 Provide Consultant with a digital photo of the weighing and copy of the recorded weights.
- .4 Provide on the car top and fill in an Auxiliary Weight Data Tag.

2.53 Car Cab Interior Refurbishing

- .1 **General**
 - .1 Thoroughly clean, sand and prepare surfaces to receive new materials. Refurbish interiors as specified herein.
 - .2 **Completely remove as much of the redundant material as possible to keep the car weight to a minimum.**
 - .3 All fastenings for new materials to be concealed.
 - .4 All new materials provided shall conform to Clause 2.14.2 of the B44 Code.
 - .5 Submit **coloured** shop drawings of cab details for review by the Consultant and Owner.

Car Cab Interior Refurbishing - cont'd

.2 Ceiling

- .1 Remove existing light fixtures, wiring and light valance. Patch any redundant holes in the ceiling or walls. Paint ceiling with white gloss paint.
- .2 Provide six (6) new removable **SLIM LINE** pan type dropped ceiling panels constructed of .95mm stainless steel #4 satin finish set in heavy duty extruded aluminum frames. Mount ceiling panels **as close as possible** to the existing ceiling.
- .3 Provide in the stainless steel pans, four (4) new 9 watt LED DISC type light fixtures.
- .4 Arrange panels to provide access to the emergency exit on the car top.

.3 Front and Rear Return Panel, Transom and Car Doors

- .1 Reclad the front and rear return panels and transoms with Avesta stainless steel Deco 1 pattern.
- .2 Clad the **front and rear car doors** with Avesta stainless steel Deco 1 pattern.

.4 Side Walls

- .1 Provide on each side wall from the base plate to within 50 mm of the underside of the ceiling, **HORIZONTAL** applied panels clad with Avesta stainless steel Deco 1 pattern. Provide four(4) panels on ALL walls. Provide 3mm stainless steel corner edge on panels.
- .2 Panels to be constructed of 11mm FRPB.
- .3 Provide corner reveals of approximately 50mm between panels and corners. Clad reveal strips in 20 ga. stainless steel #4 satin finish.
- .4 Provide 3mm aluminium panel interlock between panels.

.5 Entrance Columns

- .1 Clad complete entrance columns with Avesta stainless steel Deco 1 pattern.

.6 Handrails

- .1 Provide a 150mm handrail mounting panel clad with #4 stainless steel complete with phenolic backer.
- .2 Provide handrails at 900 mm above floor, on all non accessible walls with ends returned close to panels. Design handrails to be removable from inside the car. Space handrails 35mm to 45mm from wall.
- .3 Handrails to be constructed of **tubular** stainless steel, and returned to the wall at each end.

Car Cab Interior Refurbishing - cont'd

.7 Base Plates

- .1 Provide new base plates constructed of FRPB clad in #4 stainless steel.
- .2 Design base plates so that the face of the kick plate protrudes flush with the wall panels.

.8 Car Sill

- .1 Provide new **nickle silver** sill for **front** entrance only.

.9 Flooring

- .1 Remove the existing flooring and sub-flooring and install new plywood sub-floor to suit new sill height.
- .2 Install new Amtico rubber flooring -colour MLS 133 Polished Pewter Slate finish.

2.54 Car Protective Pads

- .1 Install suitable pad hooks in the car cab.
- .2 Provide one (1) complete set of fire retardant protective pads covering all exposed wall surfaces and the front return panel (except car station) and covering from 100 mm to approximately 2400 mm above the car floor.

2.55 Car Ventilation

- .1 Provide ventilation by a new two speed fan located in the ceiling of the cab. Provide a chrome grill for the fan.
- .2 Limit total fan noise to 55 dBA as read from 0.9 m above floor with fan on high speed.
- .3 Mount fan on top of car and effectively sound isolate system from car to prevent transmission of vibration to car structure.

2.56 Car Operating Panel

- .1 Provide in the car cab, **ONE** new car operating panel, with hinged stainless steel face plate and **one** service cabinet.
- .2 Locate all buttons in accordance with Appendix E, of the B44 Code . Top button to be no more than 1220mm above the finished floor. **Telephone button to be at 1220 mm above the floor.**



Car Operating Panels - cont'd

- .3 Provide **Dupar US 91 Compact 2** stainless steel **Bi Colour White - Blue** buttons. Provide **square slim line** raised numerals with braille to the left of each button. Surface mounted plates will not be accepted. Where possible use international symbols. All other markings to be engraved on the faceplate in both official languages.
- .4 Common devices to be included in the car station are as follows:
 - .1 Floor push buttons with integral illumination using Blue LED type lights with a minimum 100,000 hour rating. Illuminate button Blue when call is registered and extinguish the call when the car stops at the selected floor.
 - .2 Provide beside the ground floor REAR car button, a **spring return key switch** to provide restricted access to the car button.
 - .3 Alarm, FRONT and REAR door open, and door close buttons. **Provide and illuminate the wording "Door Open and Door Close" on the buttons. Provide Bi Colour White - Blue wording on the buttons.** Engrave the bilingual wording " Door Open and Door Close above or under the buttons.
 - .4 Position indicator. Display letters and numbers at least 50 mm high.
 - .5 Letters and numbers must indicate the position corresponding to the landing through which the car is passing or at which it is stopped.
 - .6 Lens for Emergency Lighting System as specified elsewhere in the specifications.
 - .7 Provide in the car operating panel perforation holes for a hands free communication system, as specified elsewhere in these specifications. Provide beside the phone button, a **yellow** International Telephone Symbol and engraved wording "PHONE". Provide an LED visual indicator and engraving, to indicate to persons with hearing disabilities that their call for assistance has been acknowledged.
 - .8 Visual and audible signal for Firefighter's Operation.
 - .9 Audible signal to sound when the car stops at or passes a floor. Signal volume to be adjustable between 50 and 70 dBA.

Car Operating Panels - cont'd

- .5 Provide in the car station a service cabinet with a hinged **self-locking door**. Provide **METAL TOGGLE** switches inside the service cabinet, appropriately marked by **wording not symbols**, to control the following:
 - .1 Car Lights -engrave OFF and ON positions.
 - .2 Car ventilating fan - engrave speeds 1&2
 - .3 Test **button** for emergency lighting
 - .4 Independent service switch -engrave OFF and ON positions.
 - .5 Inspection key switch - engrave OFF and ON positions.
 - .6 Provide one spare key switch
 - .7 One GFI receptacle.
 - .8 Key operated stop switch - engrave Stop and Run positions

- .6 Engrave the following on the operating panels as indicated below.
 - .1 Elevator Number in minimum 50 mm numerals
 - .2 Elevator Capacity in Kilograms and Number of Persons
 - .3 TSSA Installation Number and Logo
 - .4 Licence located in machine room" in letters 12mm in height. Engrave with black fill.

- .7 Submit samples of buttons and layout drawings to Consultant for approval.

2.57 Car Position Indicators

- .1 Provide a new segmented position indicator located at the **top** of the car operating panel. Indicator to display identical markings to car operating buttons, including markings for main floor. Visual indicators to be 50mm high and **blue** in colour.
- .2 Provide an audible signal to sound when the car stops at or passes a floor. Signal volume to be adjustable between 50 and 70 dBA.
- .3 Arrange letters and numbers appearing on the indicator to illuminate in sequence and to transfer illumination instantaneously between floor levels.

2.58 Hall Position Indicator

- .1 Provide at the **FIRST** floor a segmented hall position indicator mounted horizontally including direction arrows. Install in location of existing indicator.
- .2 Arrange letters and numbers appearing on the indicator to illuminate in sequence and to transfer illumination instantaneously between floor levels. Visual indicators to be 50mm high and **blue** in colour.
- .3 Provide all cutting and patching as required to accommodate the new fixture.



2.59 In-Car Lanterns and Gongs

- .1 Provide new vandal resistant in-car lanterns with electronic "Chime" type gongs. Locate lanterns in car door jamb post, with the centerline of the fixture 1830 mm above the floor. Provide **ONE** fixture in the car for the front entrance only.
- .2 The lantern indicator shall consist of an LED digital display in the shape of an arrow, **mounted flush** with the faceplate. Use LED type, 100,000 hour rating, on a high resolution screen display.
 - .1 Visual elements shall be a minimum of 60 mm in the smallest direction.
 - .2 The lens for the Up direction shall be green in colour, and the lens for the Down direction shall be red in colour.
- .3 Arrange lanterns so that when the car stops in response to either a car call or a hall call, the in-car lantern, corresponding to the direction of travel, illuminates and the gong operates as the doors are opening.. Signal volume to be adjustable between 60 and 90 dBA. Lantern to remain illuminated until the car closes its doors.
- .4 In case of over travel arrange the in-car lantern to remain illuminated indicating original direction of travel.
- .5 Sound gong once for "UP" and twice for "DOWN" stops.
- .6 Lantern fixture plate shall be of stainless steel No. 4 finish and brushed vertically.
- .7 Fasteners shall be of the vandal resistant type.

2.60 Hall Buttons

- .1 Provide one riser of new **extended** hall button fixtures identical in design to the car buttons. Provide buttons with integral illumination using 100,000 hour rated **BLUE** LED illumination. Provide a new hall call button fixture for the rear entrance at the ground floor rear opening.
- .2 Provide an out of service indicator light minimum 75mm in diameter in **ALL** fixtures. Include an out of service toggle switch at controller. Out of service indicator is to illuminate any time service is denied to the hall buttons.
- .3 Provide a digital position indicator in each fixture **except** at the main floor. Display numerals 50mm in height.
- .4 Illuminate corresponding "UP" or "DOWN" call button when call is registered. Extinguish illumination when call has been answered. **Provide illuminated direction arrows on the up and down buttons.**
- .5 **Locate centreline of new buttons to be 1066mm above the floor.**
- .6 Provide a ground wire to properly ground the hall button fixture covers.

2.61 Special Hall Station At Designated Level

- .1 Provide hall buttons identical in design to the car buttons. Provide buttons with integral illumination using 100,000 hour rated **BLUE** LED illumination. Centreline of new buttons to be 1066mm above the floor.
- .2 Include in this fixture a (three) 3-position RESET- OFF- ON for the Fire Recall service. Provide quality type key FEO - 1 switch of the Group 3 classification.
- .3 Include in this station a pilot light to indicate that the emergency power is in effect. Include all engraving as per the B44 Code. Include bilingual engraving.
- .4 Provide on or near the plate a bilingual, Elevator Corridor Call Station Pictograph as per Figure 2.27.9 of the B44 Code.
- .5 Provide all cutting and patching as required. Provide shop drawings of the complete fixture for review.
- .6 Provide at the designated level near the elevator hoistway an identified metal box containing the emergency recall keys.

2.62 Signal Illumination

- .1 Illuminate all letters and all numbers with sufficient intensity to produce distinct and well defined indication under ambient lighting conditions.

2.63 Faceplate Fastenings

- .1 All faceplates to be stainless steel. Fasten all signal fixture face plates securely with unexposed fasteners or with tamper-proof fasteners.

2.64 Identification

- .1 Provide 100mm numerals corresponding to floor level on inside of hoistway doors.
- .2 Provide 50mm numerals on all elevator equipment as previously specified. Include permanent numbers in each elevator.
- .3 Provide all necessary engraving on faceplates as required by the Consultant, in Helvetica medium, upper and lower case.
- .4 All fastenings of cover plates for signals, buttons and panels shall be tamper proof type.

Identification - cont'd

- .5 Identify elevator at designated level. Use metal plates permanently installed with rivets or a permanent type glue. Numbers to be minimum 50mm high.
- .6 Provide raised character and braille floor designations on both door jambs minimum 50mm. Locate centre-line of numeral 1525mm above floor level measured from the base line of the characters.
- .7 At the main entry level on both door jambs provide a 50mm raised star designation to the left of the floor designation number. All characters to comply with Clause E19.2.

2.65 Car Emergency Lighting

- .1 Provide new battery operated emergency lighting equipment. The lens is to be incorporated into the car operating panel.
- .2 Provide general illumination in the car with a minimum of 5 lx intensity 1200mm above the car floor and 300mm in front of the operating panels for at least a four (4) hour period.
- .3 Include means for convenient manual operation and testing of the unit in the car station service cabinet. Arrange **test button** to turn off normal lighting when testing emergency lighting.

2.66 Emergency Communications System In the Car

- .1 Comply with clause 2.27.1.1.1 of the B44 Code.
- .2 Provide a hands free, vandal resistant, emergency communications device containing an internal adjustable volume control speaker and microphone, **mounted on a hinged and locked panel in the car station** to enable two-way voice communication between the car and a location in the building that is readily accessible to authorized and emergency personnel. Locked panel to be similar and be keyed the same as the service panel.
- .3 The device shall be activated by pressing the PHONE button located in the car station and shall automatically ring a telephone number of the Owner's choice. Once activated in the elevator the line shall remain open until disconnected by the receiver. **PHONE button to be located at 1220mm above the floor. Provide a raised 6mm high stainless collar around the "PHONE" button to prevent accidental activation. Spot weld collar to car operating panel.**
- .4 Provide an LED and engraving to visually indicate that the call has been answered. Provide beside the Phone button, a Yellow International Telephone Symbol as per E19.7.2.2.of the B44 Code and the operating instructions.



Emergency Communications System In the Car - cont'd

- .5 The line dialler network shall operate on any central office line along with conventional phones and shall have an internal battery for memory back-up for a minimum of four hours in the event that power fails or the dialler is removed from the telephone line.
- .6 The device shall contain a ring sensor which shall allow the initiation of a call to the elevator. The number of rings shall be adjustable. The two-way communication shall not be transmitted to an automatic answering system.
- .7 The two-way communications, once established, shall be disconnected only when authorized personnel outside the car terminate the call.
- .8 The two-way communications means shall provide on demand to authorized personnel, information that identifies the building location and elevator number and that assistance is required.
- .9 Provide all wiring necessary for the complete installation of the system from the device in the elevator to an externally located terminal in the elevator machine room. Connect to the telephone line.
- .10 The two-way communications means shall not use a handset in the car.
- .11 If the emergency communication means is connected to the building power supply, it shall automatically transfer to a source of standby or emergency power as required by the applicable building code, after the normal power fails. The power source shall be capable of providing for illumination of the visual indication within the car, and the means of emergency communications for at least 4 hours; and the audible signalling device for at least 1 hour.

2.67 Emergency Communications System In the Car Verification

- .1 Comply with Clause 2.27.1.1.6 of the B44 Code
- .2 Provide a minimum of one illuminated visual and audible signal for each group of elevators controlled by the Fire Recall Switch. Provide a stainless steel faceplate.
- .3 The visual signal is to be located at the designated landing in the vicinity of the Fire Recall Switch.
- .4 Provide all Bilingual engraving as required.



2.68 Audible & Verbal Floor Announcement

- .1 Provide verbal floor announcement as per clause E-10.3 of B44 Code.
- .2 Provide announcements in both Official Languages.
- .3 Provide in the car operating panel, perforation holes for a separate speaker for the verbal floor annunciator device.

2.69 Bilingual Markings

- .1 Engrave identification and instructions at least 0.25 mm deep on operating panels and on all signal equipment in both English and French except where design is such that inference is obvious and readily understood.
- .2 All position indicators are to display Bilingual Characters similar to the Bilingual floor markings in the car operating panel.

2.70 Keys

- .1 Provide six (6) keys for each control device and six (6) FEO-K1 keys for Firefighters Service switches.
- .2 All keys shall be grouped as per clause 8.1.1 of the B44 Code.
- .3 Organize keys on suitable key rings with permanently engraved tags, clearly identifying use. Tags to be approved by the Elevator Consultant and presented to the Owner's representative.
- .4 Provide Consultant with a copy of a Transmittal signed by Owner's Representative indicating that all tagged keys have been received by the authorized representative.
- .5 Provide a copy of the Transmittal in the maintenance manuals.

2.71 Material and Marking of Crosshead Data Plates

- .1 All crosshead data plates including the cab alteration weight data tag must comply with Clause 2.16.3.3 of the B44 Code.
- .2 All data plates must be permanently fastened to the crosshead with screws or silicone glue. Alternate fastenings will not be accepted.
- .3 All information on the data plates must be engraved or permanently marked so as the information cannot be easily removed.

PART 3 - EXECUTION

3.1 Workmanship and Procedure

- .1 Install all equipment in a first class workmanship manner. Upon completion do all necessary repairs, cleaning, and painting as required to turn the equipment over in "New Condition".

3.2 Arrangement of Equipment

- .1 Arrange equipment in machine room so that rotating elements, sheaves and other equipment can be removed for repairs or replacement without dismantling or removing other equipment components.
- .2 Arrange equipment for clear passage.
- .3 Arrange equipment according to shop drawings.
- .4 Accommodate equipment in provided space according to above mentioned requirements.

3.3 Welding

- .1 All field welds shall be identified with the welder's identification stamp.

3.4 Interlock

- .1 Permanently dowel interlocks.

3.5 Surface Protection

- .1 Provide protective coverings for all finished surfaces.

3.6 Limit Switches

- .1 Subsequent to the performance of safety tests and checks by the Inspecting Authorities, fasten final limit switches and brackets by through bolting or dowelling.

3.7 Brake

- .1 Adjust brake to hold car cab plus 125% of the rated load.
- .2 After final adjustment of the brake and subsequent to the performance of safety tests and checks by the Inspecting Authorities, drill the brake spring nuts and rod and insert a cotter pin or seal to avoid incorrect or different adjustments in the future
- .3 Arrange the brake to stop the elevator with full load in the car from full speed in the down direction within the normal stopping distance of the car.
- .4 Provide and fill out brake setting data plate after final adjusting.

3.8 Car Balance

- .1 Check the static balance of the car.
- .2 Adjust the equipment and all guide rollers so that at any point the pressure upon the rollers does not exceed 11 kg with closed doors and empty car cab.

3.9 Counterweight Balance

- .1 Check the static balance of the counterweight.
- .2 Adjust the equipment and all guide rollers so that at any point the pressure upon the rollers does not exceed 11 kg.
- .3 Check and adjust as required to ensure that the counterweight is equal to the complete elevator cab plus between 40 to 42.5% of the contract load.

3.10 Speed Variation

- .1 Adjust for speed variation as follows:
 - .1 When lifting rated load, do not permit car speed to vary from rated speed by more than 2%.
 - .2 When operating under varying normal conditions, i.e. rated load to no load, do not permit operating conditions to exceed 2%.



3.11 Operating Time

- .1 Adjust the equipment so that the elapsed time to travel one typical floor does not exceed 13.5 to 14.5 seconds in both directions.
- .2 Measure this time as follows:
 - .1 The time starts when the fully opened doors begin to close and continues until the car is stopped level with the next floor and the car and hall doors are open to three-quarters of their fully open position.
 - .2 Floor level is considered to be within 6mm of level.
 - .3 The time is measured with full load in the car and in both directions of travel.
 - .4 The power door operation for the hall and car doors conforms to the elevator safety code requirements.
 - .5 Adjust the equipment so that for other conditions of loading, the time does not vary more than five percent (5%).
 - .6 Adjust the equipment so that the operating time, as set out above, is compatible with dependable, consistent operation without undue wear or excessive maintenance and can be readily maintained over the life of the elevator installation.
 - .7 Adjust the equipment so that with the control adjusted to give the required time, the elevator operates under smooth acceleration and retardation and provides a comfortable and agreeable ride to the passengers.

3.12 Door Adjustment

- .1 Arrange levelling and door opening controls in such a manner that the doors start to open during the levelling zone and the doors are open to three quarters of fully open when the car is stopped level with the floor.
- .2 The time required to open the doors measured from start of open to fully open position shall not exceed 2.5 seconds.
- .3 The time required to close the doors measured from start of close to fully closed position shall not exceed 4.0 seconds.

3.13 Ride Performance

- .1 Acceleration/Deceleration
 - .1 Adjust the equipment to allow the car to start, accelerate, decelerate and stop smoothly.

3.14 Elevator Consultant

- .1 The Elevator Consultant has general supervision and direction of the elevator work. He is authorized to stop the work whenever the stoppage is necessary to insure the proper execution of the contract.
- .2 The Elevator Contractor will furnish competent men and equipment for inspecting and directing speed, load and such other acceptance tests as the Elevator Consultant may deem advisable.
- .3 The Elevator Consultant will carry out one (1) Final Inspection and one (1) Re-inspection. The cost of any additional inspections required due to the Elevator Contractors failure to correct any outstanding deficiencies previously listed, will be charged to the Elevator Contractor by the Owner.

3.15 Inspections Field Tests and Commissioning

- .1 Furnish competent personnel to assist the Consultant during the site inspections and testing of the systems. Make the appropriate corrections until final acceptance of the installations.
- .2 The site inspections will be carried out to ensure that the workmanship is in compliance with plans and specifications.
- .3 Provide a minimum of three working days notice to Consultant for testing. Prior to giving notice the contractor shall test all systems to ensure proper operation.
- .4 Perform all tests as required by the B44 Code and the Technical Standards And Safety Act,2000 O.Reg 209/01.
- .5 The Contractor is to provide the services of a licenced mechanic to assist with all TSSA and Consultants inspections until **ALL** deficiencies are corrected in an acceptable manner and the final certificate of completion has been provided.
- .6 The Contractor is to provide the services of a licenced mechanic to assist with all fire alarm testing until ALL tests are completed in an acceptable manner and the final certificate of completion has been provided.



Inspections Field Tests and Commissioning - cont'd

- .7 Upon completion of the elevator provide all personnel, instruments and devices required to perform the following:
 - .1 Test car and counterweight balance to verify specification requirements.
 - .2 Test the equipment under full load and no load to verify the speed variation performance requirements.
 - .3 Test operating times to verify the performance requirements.
 - .4 Test door operating equipment to verify the performance requirements.
 - .5 Test the ride to verify the performance requirements.
 - .6 Perform all electrical readings and complete technical data forms required by the specifications.
 - .7 Upon completion of the elevator furnish competent technicians, adjusters or engineers fully trained on the equipment installed to check and test all operating systems including but not limited to, special emergency service, and the operation of the group control system to verify the specification requirements.

3.16 Traction Elevator Performance Data Form

- .1 After completion of the work on the elevator and before the Consultant's Acceptance Inspection, complete and submit this form to the Consultant. The Consultant will not carry out an Acceptance Inspection until receipt of the completed and signed form.

Elevator No. _____	Installation No. _____	READINGS
CAR SPEED UP (fpm)		
CAR SPEED DOWN (fpm)		
FLOOR TO FLOOR TIME UP (seconds)		
FLOOR TO FLOOR TIME DOWN (seconds)		
BRAKE TO BRAKE TIME UP (seconds)		
BRAKE TO BRAKE TIME DOWN (seconds)		
EMPTY CAR - RUNNING CURRENT UP (amps)		
EMPTY CAR - RUNNING CURRENT DOWN (amps)		
FULL LOAD - RUNNING CURRENT UP (amps)		
FULL LOAD - RUNNING CURRENT DOWN (amps)		
CAR DOOR OPEN TIME (seconds)		
CAR DOOR CLOSE TIME (seconds)		
CAR CALL DWELL TIME (seconds)		
HALL CALL DWELL TIME (seconds)		
NUDGING TIME OUT (seconds)		
DOOR CLOSING STALL FORCE (lbs)		
LEVELLING ACCURACY (")		
TYPE OF DOORS		
CAR DOOR ENTRANCE WIDTH (")		
CODE ZONE DISTANCE (Inches)		
NUDGING CLOSE TIME IN CODE ZONE DISTANCE (seconds)		
SAFETY SLIDE DISTANCE (Inches)		
GOVERNOR OVERSPEED SWITCH TRIP (fpm)		
SAFETY APPLICATION TRIP SPEED (fpm)		
TESTS PERFORMED BY:		DATE:

- .2 This form shall be signed by the person responsible for the performance of the test.



3.17 Automatic Emergency Recall Test Data

- .1 After completion of the modernization project and correction of all TSSA deficiencies, arrange with the Owner or Property Manager for a test of the elevator on automatic emergency recall. Carry out this test after normal working hours if requested by the Owner or Property Manager. The Consultant will not carry out a **Final** Inspection until receipt of the completed and signed form. A copy of this completed form must also be included in the O&M manuals.

Recall Test Date		
Elevator Contractor		
Fire Alarm Testing Contractor		
Tests Performed By:		
Devices Activated	B44 Code Requirements	B44Code Compliance
Hoistway Detector	Car returned to the Designated Level with fire hat flashing in car	Yes / No
Machine Room Detector	Car returned to the Designated Level with fire hat flashing in car	Yes / No
General Fire Alarm Activation Devices from hall floors	Car returned to the Designated Level -- fire hat in car did not flash but illuminated	Yes / No
Dedicated Detector at Designated Level	Car returned to the Alternate floor -- fire hats in car did not flash but illuminated	Yes / No
Recall Switch at Main Floor	Indicator light illuminated when on automatic or manual recall	Yes / No

- .2 This form shall be signed by the person responsible for the performance of the test.

3.18 Car and Counterweight Weighing Data

- .1 Car Weight before alternation: _____
- .2 Car Weight after alternation: _____
- .3 Counterweight before alternation: _____
- .4 Counterweight after alternation: _____



3.19 Generator Emergency Power Test Data

- .1 After completion of the modernization project and correction of all TSSA deficiencies, arrange with the Owner or Property Manager for a test of the elevator on emergency power provided from the emergency generator. Carry out this test after normal working hours if requested by the Owner or Property Manager. Submit to the Consultant, a copy of the completed form below. A copy of this completed form must also be included in the O&M manuals.

Pass >meets requirements Fail > does not meet requirement N/A > not applicable

	Elevator Numbers: _____	Pass	Fail	N/A
	Tests Performed By: _____ Date: _____			
1	The operation of the emergency power system (EPS) shall be tested at the completion of the project by providing power from the emergency generator, to demonstrate compliance to section 2.27.2. This must be demonstrated by: >> Switching over to generator power			
2	During the EPS Test, all elevators were returned to the recall level at least one at a time.(2.27.2.1)			
3	Verify an illuminated signal marked "ELEVATOR EMERGENCY POWER" indicating elevators on emergency power is located in the elevator lobby at the designated level. (2.27.2.3)			
4	A visual means located adjacent to the manual selector switch shall be provided to indicate which elevator is selected.			
5	Note: When the emergency power system is not capable of operating all elevators simultaneously; Verify selector switch(es) marked "ELEVATOR EMERGENCY POWER" (red lettering a minimum of 5 mm). (2.27.2.4.1)			
6	Verify operation by FEO- K1 key(2.27.8)			
7	Verify selector switch(es) corresponds to elevator identification number and includes an "AUTO " position." (2.27.2.4.2)			
8	Verify switch(es) is located at designated level, or if elsewhere, means is provided to indicate elevators are at the designated level and doors are open. (2.27.2.4.3)			
9	With the selector switch in the "AUTO" position: Verify automatic power selection returns each elevator not on designated attendant operation, inspection operation, or Phase II In-Car Emergency Operation. (2.27.2.4.4)			
10	Verify a disabled car automatically switches to another car. (2.27.2.4.4)			
11	Verify the individual selector switch(es) positions override automatic power selection and power is not removed until a car is stopped. (2.27.2.4.5)			

- .2 This form shall be signed by the person responsible for the performance of the test.



3.20 Cleaning and Painting

- .1 Upon completion thoroughly clean, remove all indications of rust and paint with Low Odour Paint ONLY, the following:
 - .1 Machine room equipment in Enamel paint.
 - .2 Machine room floor in Grey Floor Enamel.
 - .3 Horizontal area of the refuge space on the car top.
 - .4 Car top in rust resistant grey paint, crosshead in black.
 - .5 Counterweight frame and blocks in rust resistant yellow paint.
 - .6 Pit equipment, channels, and buffer supports in rust resistant black paint.
 - .7 Paint car top safety railing yellow.
 - .8 Horizontal area of the refuge space in the pit in yellow.
 - .9 Hoistway side of all fascia plates.





TP1 Amount Payable – General

1.1 Subject to any other provisions of the contract, Her Majesty shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which

1.1.1 the aggregate of the amounts described in TP2 exceeds

1.1.2 the aggregate of the amounts described in TP3

and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by him in respect of the work to which the payment relates.

TP2 Amounts Payable to the Contractor

2.1 The amounts referred to in TP1.1.1 are the aggregate of

2.1.1 the amounts referred to in the Articles of Agreement, and

2.1.2 the amounts, if any, that are payable to the Contractor pursuant to the General Conditions.

TP3 Amounts Payable to Her Majesty

3.1 The amounts referred to in TP1.1.2 are the aggregate of the amounts, in any, that the Contractor is liable to pay Her Majesty pursuant to the contract.

3.2 When making any payments to the Contractor, the failure of Her Majesty to deduct an amount referred to in TP3.1 from an amount referred to in TP2 shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

TP4 Time of Payment

4.1 In these Terms of Payment

4.1.1 The “payment period” means a period of 30 consecutive days or such other longer period as is agreed between the Contractor and the Departmental Representative.

4.1.2 An amount is “due and payable” when it is due and payable by Her Majesty to the Contractor according to TP4.4, TP4.7 or TP4.10.

4.1.3 An amount is overdue when it is unpaid on the first day following the day upon which it is due and payable.

4.1.4 The “date of payment” means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada and given for payment.

4.1.5 The “Bank Rate” means the discount rate of interest set by the Bank of Canada in effect at the opening of business on the date of payment.



- 4.2 The Contractor shall, on the expiration of a payment period, deliver to the Departmental Representative in respect of that payment period a written progress claim that fully describes any part of the work that has been completed, and any material that was delivered to the work site but not incorporated into the work during that payment period.
- 4.3 The Departmental Representative shall, not later than ten days after receipt by him of a progress claim referred to in TP4.2,
- 4.3.1 inspect the part of the work and the material described in the progress claim; and
- 4.3.2 issue a progress report, a copy of which the Departmental Representative will give to the Contractor, that indicates the value of the part of the work and the material described in the progress claim that, in the opinion of the Departmental Representative,
- 4.3.2.1 is in accordance with the contract, and
- 4.3.2.2 was not included in any other progress report relating to the contract.
- 4.4 Subject to TP1 and TP4.5 Her Majesty shall, not later than 30 days after receipt by the Departmental Representative of a progress claim referred to in TP4.2, pay the Contractor
- 4.4.1 an amount that is equal to 95% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has been furnished by the Contractor, or
- 4.4.2 an amount that is equal to 90% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has not been furnished by the Contractor.
- 4.5 It is a condition precedent to Her Majesty's obligation under TP4.4 that the Contractor has made and delivered to the Departmental Representative,
- 4.5.1 a statutory declaration described in TP4.6 in respect of a progress claim referred to in TP4.2,
- 4.5.2 in the case of the Contractor's first progress claim, a construction schedule in accordance with the relevant sections of the Specifications, and
- 4.5.3 if the requirement for a schedule is specified, an update of the said schedule at the times identified in the relevant sections of the Specifications.
- 4.6 A statutory declaration referred to in TP4.5 shall contain a deposition by the Contractor that
- 4.6.1 up to the date of the Contractor's progress claim, the Contractor has complied with all his lawful obligations with respect to the Labour Conditions; and
- 4.6.2 up to the date of the Contractor's immediately preceding progress claim, all lawful obligations of the Contractor to subcontractors and suppliers of material in respect of the



work under the contract have been fully discharged.

- 4.7 Subject to TP1 and TP4.8, Her Majesty shall, not later than 30 days after the date of issue of an Interim Certificate of Completion referred to in GC44.2, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.7.1 the sum of all payments that were made pursuant to TP4.4;
 - 4.7.2 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty or rectifying defects described in the Interim Certificate of Completion; and
 - 4.7.3 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty of completing the parts of the work described in the Interim Certificate of Completion other than the defects referred to in TP4.7.2.
- 4.8 It is a condition precedent to Her Majesty's obligation under TP4.7 that the Contractor has made and delivered to the Departmental Representative,
- 4.8.1 a statutory declaration described in TP4.9 in respect of an Interim Certificate of Completion referred to in GC44.2, and
 - 4.8.2 if so specified in the relevant sections of the Specifications, and update of the construction schedule referred to in TP4.5.2 and the updated schedule shall, in addition to the specified requirements, clearly show a detailed timetable that is acceptable to the Departmental Representative for the completion of any unfinished work and the correction of all defects.
- 4.9 A statutory declaration referred to in TP4.8 shall contain a deposition by the contractor that up to the date of the Interim Certificate of Completion the Contractor has
- 4.9.1 complied with all of the Contractor's lawful obligations with respect to the Labour Conditions;
 - 4.9.2 discharged all of the Contractor's lawful obligations to the subcontractors and suppliers of material in respect of the work under the contract; and
 - 4.9.3 discharged the Contractor's lawful obligations referred to in GC14.6.
- 4.10 Subject to TP1 and TP4.11, Her Majesty shall, not later than 60 days after the date of issue of a Final Certificate of Completion referred to in GC44.1, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.10.1 the sum of all payments that were made pursuant to TP4.4; and
 - 4.10.2 the sum of all payments that were made pursuant to TP4.7.
- 4.11 It is a condition precedent to Her Majesty's obligation under TP4.10 that the Contractor has made and delivered a statutory declaration described in TP4.12 to the Departmental Representative.



- 4.12 A statutory declaration referred to in TP4.11 shall, in addition to the depositions described in TP4.9, contain a deposition by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the contract have been discharged and satisfied.

TP5 Progress Report and Payment Thereunder Not Binding on Her Majesty

- 5.1 Neither a progress report referred to in TP4.3 nor any payment made by Her Majesty pursuant to these Terms of Payment shall be construed as an admission by Her Majesty that the work, material or any part thereof is complete, is satisfactory or is in accordance with the contract.

TP6 Delay in Making Payment

- 6.1 Notwithstanding GC7 any delay by Her Majesty in making any payment when it is due pursuant to these Terms of Payment shall not be a breach of the contract by Her Majesty.

- 6.2 Her Majesty shall pay, without demand from the Contractor, simple interest at the Bank Rate plus 1 -1/4 per centum on any amount which is overdue pursuant to TP4.1.3, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment except that

- 6.2.1 interest shall not be payable or paid unless the amount referred to in TP6.2 has been overdue for more than 15 days following

6.2.1.1 the date the said amount became due and payable, or

6.2.1.2 the receipt by the Departmental Representative of the Statutory Declaration referred to in TP4.5, TP4.8 or TP4.11,

whichever is the later, and

- 6.6.2 interest shall not be payable or paid on overdue advance payments if any.

TP7 Right of Set-off

- 7.1 Without limiting any right of set-off or deduction given or implied by law or elsewhere in the contract, Her Majesty may set off any amount payable to Her Majesty by the Contractor under this contract or under any current contract against any amount payable to the Contractor under this contract.

- 7.2 For the purposes of TP7.1, "current contract" means a contract between Her Majesty and the Contractor

7.2.1 under which the Contractor has an undischarged obligation to perform or supply work, labour or material, or

7.2.2 in respect of which Her Majesty has, since the date of which the Articles of Agreement were made, exercised any right to take the work that is the subject of the contract out of the Contractor's hands.



TP8 Payment in Event of Termination

- 8.1 If the contract is terminated pursuant to GC41, Her Majesty shall pay the Contractor any amount that is lawfully due and payable to the Contractor as soon as is practicable under the circumstances.

TP9 Interest on Settled Claims

- 9.1 Her Majesty shall pay to the Contractor simple interest on the amount of a settled claim at an average Bank Rate plus 1 ¼ per centum from the date the settled claim was outstanding until the day prior to the date of payment.
- 9.2 For the purposes of TP9.1,
- 9.2.1 a claim is deemed to have been settled when an agreement in writing is signed by the Departmental Representative and the Contractor setting out the amount of the claim to be paid by Her Majesty and the items or work for which the said amount is to be paid.
- 9.2.2 an "average Bank Rate" means the discount rate of interest set by the Bank of Canada in effect at the end of each calendar month averaged over the period the settled claim was outstanding.
- 9.2.3 a settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the contract had it not been disputed.
- 9.3 For the purposes of TP9 a claim means a disputed amount subject to negotiation between Her Majesty and the Contractor under the contract.



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GC1 Interpretation

1.1 In the contract

- 1.1.1 where reference is made to a part of the contract by means of numbers preceded by letters, the reference shall be construed to be a reference to the particular part of the contract that is identified by that combination of letters and numbers and to any other part of the contract referred to therein;
- 1.1.2 “contract” means the contract document referred to in the Articles of Agreement;
- 1.1.3 “contract security” means any security given by the Contractor to Her Majesty in accordance with the contract;
- 1.1.4 “Departmental Representative” means the officer or employee of Her Majesty who is designated pursuant to the Articles of Agreement and includes a person specially authorized by him to perform, on his behalf, any of his functions under the contract and is so designated in writing to the Contractor;
- 1.1.5 “material” includes all commodities, articles and things required to be furnished by or for the Contractor under the contract for incorporation into the work;
- 1.1.6 “Minister” includes a person acting for, or if the office is vacant, in place of the Minister and his successors in the office, and his or their lawful deputy and any of his or their representatives appointed for the purposes of the contract;
- 1.1.7 “person” includes, unless the context otherwise requires, a partnership, proprietorship, firm, joint venture, consortium and a corporation;
- 1.1.8 “plant” includes all animals, tools, implements, machinery, vehicles, buildings, structures, equipment and commodities, articles and things other than material, that are necessary for the due performance of the contract;
- 1.1.9 “subcontractor” means a person to whom the Contractor has, subject to GC4, subcontracted the whole or any part of the work;
- 1.1.10 “superintendent” means the employee of the Contractor who is designated by the Contractor to act pursuant to GC19;
- 1.1.11 “work includes, subject only to any express stipulation in the contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the contract.

1.2 The headings in the contract documents, other than in the Plans and Specifications, form no part of the contract but are inserted for convenience of reference only.

1.3 In interpreting the contract, in the event of discrepancies or conflicts between anything in the Plans and Specifications and the General Conditions, the General Conditions govern.



- 1.4 In interpreting the Plans and Specifications, in the event of discrepancies or conflicts between
- 1.4.1 the Plans and Specifications, the Specifications govern;
 - 1.4.2 the Plans, the Plans drawn with the largest scale govern; and
 - 1.4.3 figured dimensions and scaled dimensions, the figured dimensions govern.

GC2 Successors and Assigns

- 2.1 The contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and assigns.

GC3 Assignment of Contract

- 3.1 The contract may not be assigned by the Contractor, either in whole or in part, without the written consent of the Minister.

GC4 Subcontracting by Contractor

- 4.1 Subject to this General Condition, the Contractor may subcontract any part of the work.
- 4.2 The Contractor shall notify the Departmental Representative in writing of his intention to subcontract.
- 4.3 A notification referred to in GC4.2 shall identify the part of the work, and the subcontractor with whom it is intended to subcontract.
- 4.4 The Departmental Representative may object to the intended subcontracting by notifying the Contractor in writing within six days of receipt by the Departmental Representative of a notification referred to in GC4.2.
- 4.5 If the Departmental Representative objects to a subcontracting pursuant to GC4.4, the Contractor shall not enter into the intended subcontract.
- 4.6 The contractor shall not, without the written consent of the Departmental Representative, change a subcontractor who has been engaged by him in accordance with this General Condition.
- 4.7 Every subcontract entered into by the Contractor shall adopt all of the terms and conditions of this contract that are of general application.
- 4.8 Neither a subcontracting nor the Departmental Representative's consent to a subcontracting by the Contractor shall be construed to relieve the Contractor from any obligation under the contract or to impose any liability upon Her Majesty.

GC5 Amendments



- 5.1 No amendment or change in any of the provisions of the contract shall have any force or effect until it is reduced to writing.

GC6 No Implied Obligations

- 6.1 No implied terms or obligations of any kind by or on behalf of Her Majesty shall arise from anything in the contract and the express covenants and agreements therein contained and made by Her Majesty are the only covenants and agreements upon which any rights against Her Majesty are to be founded.
- 6.2 The contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work that were made prior to the date of the contract.

GC7 Time of Essence

- 7.1 Time is of the essence of the contract.

GC8 Indemnification by Contractor

- 8.1 The Contractor shall indemnify and save Her Majesty harmless from and against all claims, demand, losses, costs, damages, actions, suits, or proceedings by whomever made, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by or attributable to the activities of the Contractor, his servants, agents, subcontractors and sub-subcontractors in performing the work including an infringement or an alleged infringement of a patent of invention or any other kind of intellectual property.
- 8.2 For the purpose of GC8.1, "activities" includes any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC9 Indemnification by Her Majesty

- 9.1 Her Majesty shall, subject to the Crown Liability Act, the Patent Act, and any other law that affects Her Majesty's rights, powers, privileges or obligations, indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of his activities under the contract that are directly attributable to
- 9.1.1 lack of or a defect in Her Majesty's title to the work site whether real or alleged; or
- 9.1.2 an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the contract employing a model, plan or design or any other thing related to the work that was supplied by Her Majesty to the Contractor.

GC10 Members of House of Commons Not to Benefit



- 10.1 As required by the Parliament of Canada Act, it is an express condition of the contract that no member of the House of Commons shall be admitted to any share of part of the contract or to any benefit arising therefrom.

GC11 Notices

- 11.1 Any notice, consent, order, decision, direction or other communication, other than a notice referred to in GC11.4, that may be given to the Contractor pursuant to the contract may be given in any manner.
- 11.2 Any notice, consent, order, decision, direction or other communication required to be given in writing, to any party pursuant to the contract shall, subject to GC11.4, be deemed to have been effectively given
- 11.2.1 to the Contractor, if delivered personally to the Contractor or the Contractor's superintendent, or forwarded by mail, telex or facsimile to the Contractor at the address set out in A4.1, or
- 11.2.2 to Her Majesty, if delivered personally to the Departmental Representative, or forwarded by mail, telex or facsimile to the Departmental Representative at the address set out in A1.2.1.
- 11.3 Any such notice, consent, order, decision, direction or other communication given in accordance with GC11.2 shall be deemed to have been received by either party
- 11.3.1 if delivered personally, on the day that it was delivered,
- 11.3.2 if forwarded by mail, on the earlier of the day it was received and the sixth day after it was mailed, and
- 11.3.3 if forwarded by telex or facsimile, 24 hours after it was transmitted.
- 11.4 A notice given under GC38.1.1, GC40 and GC41, if delivered personally, shall be delivered to the Contractor if the Contractor is doing business as sole proprietor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC12 Material, Plant and Real Property Supplied by Her Majesty

- 12.1 Subject to GC12.2, the Contractor is liable to Her Majesty for any loss of or damage to material, plant or real property that is supplied or placed in the care, custody and control of the Contractor by Her Majesty for use in connection with the contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 12.2 The Contractor is not liable to Her Majesty for any loss or damage to material, plant or real property referred to in GC12.1 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 12.3 The Contractor shall not use any material, plant or real property referred to in GC12.1 except for



the purpose of performing this contract.

- 12.4 When the Contractor fails to make good any loss or damage for which he is liable under GC12.1 within a reasonable time after being required to do so by the Departmental Representative, the Departmental Representative may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Her Majesty for the cost thereof and shall, on demand, pay to Her Majesty an amount equal to that cost.
- 12.5 The Contractor shall keep such records of all material, plant and real property referred to in GC12.1 as the Departmental Representative from time to time requires and shall satisfy the Departmental Representative, when requested, that such material, plant and real property are at the place and in the condition which they ought to be.

GC13 Material, Plant and Real Property Become Property of Her Majesty

- 13.1 Subject to GC14.7 all material and plant and the interest of the Contractor in all real property, licenses, powers and privileges purchased, used or consumed by the Contractor for the contract shall, after the time of their purchase, use or consumption be the property of Her Majesty for the purposes of the work and they shall continue to be the property of Her Majesty.
- 13.1.1 in the case of material, until the Departmental Representative indicates that he is satisfied that it will not be required for the work, and
- 13.1.2 in the case of plant, real property, licenses, powers and privileges, until the Departmental Representative indicates that he is satisfied that the interest vested in Her Majesty therein is no longer required for the purposes of the work.
- 13.2 Material or plant that is the property of Her Majesty by virtue of GC13.1 shall not be taken away from the work site or used or disposed of except for the purposes of the work without the written consent of the Departmental Representative.
- 13.3 Her Majesty is not liable for loss of or damage from any cause to the material or plant referred to in GC13.1 and the Contractor is liable for such loss or damage notwithstanding that the material or plant is the property of Her Majesty.

GC14 Permits and Taxes Payable

- 14.1 The Contractor shall, within 30 days after the date of the contract, tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the work were being performed for a person other than Her Majesty.
- 14.2 Within 10 days of making a tender pursuant to GC14.1, the Contractor shall notify the Departmental Representative of his action and of the amount tendered and whether or not the municipal authority has accepted that amount.
- 14.3 If the municipal authority does not accept the amount tendered pursuant to GC14.1 the Contractor shall pay that amount to Her Majesty within 6 days after the time stipulated in GC14.2.



- 14.4 For the purposes of GC14.1 to GC14.3 “municipal authority” means any authority that would have jurisdiction respecting permission to perform the work if the owner were not Her Majesty.
- 14.5 Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the work under the contract.
- 14.6 In accordance with the Statutory Declaration referred to in TP4.9, a Contractor who has neither residence nor place of business in the province in which work under the contract is being performed shall provide Her Majesty with proof of registration with the provincial sales tax authorities in the said province.
- 14.7 For the purpose of the payment of any applicable tax or the furnishing of security for the payment of any applicable tax arising from or related to the performance of the work under the contract, the Contractor shall, notwithstanding the fact that all material, plant and interest of the Contractor in all real property, licenses, powers and privileges, have become the property of Her Majesty after the time of purchase, be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any applicable tax payable, at the time of the use or consumption of that material, plant or interest of the Contractor in accordance with the relevant legislation.

GC15 Performance of Work under Direction of Departmental Representative

- 15.1 The Contractor shall
- 15.1.1 permit the Departmental Representative to have access to the work and its site at all times during the performance of the contract;
 - 15.1.2 furnish the Departmental Representative with such information respecting the performance of the contract as he may require; and
 - 15.1.3 give the Departmental Representative every possible assistance to enable the Departmental Representative to carry out his duty to see that the work is performed in accordance with the contract and to carry out any other duties and exercise any powers specially imposed or conferred on the Departmental Representative under the contract.

CG16 Cooperation with Other Contractors

- 16.1 Where, in the opinion of the Departmental Representative, it is necessary that other contractors or workers with or without plant and material, be sent onto the work or its site, the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them in the carrying out of their duties and obligation.
- 16.2 If
- 16.2.1 the sending onto the work or its site of other contractors or workers pursuant to GC16.1 could not have been reasonably foreseen or anticipated by the Contractor when entering into the contract, and



16.2.2 the Contractor incurs, in the opinion of the Departmental Representative, extra expense in complying with GC16.1, and

16.2.3 The Contractor has given the Departmental Representative written notice of his claim for the extra expense referred to in GC16.2.2 within 30 days of the date that the other contractors or workers were sent onto the work or its site,

Her Majesty shall pay the Contractor the cost, calculated in accordance with GC48 to GC50, of the extra labour, plant and material that was necessarily incurred.

GC17 Examination of Work

17.1 If, at any time after the commencement of the work but prior to the expiry of the warranty or guarantee period, the Departmental Representative has reason to believe that the work or any part thereof has not been performed in accordance with the contract, the Departmental Representative may have that work examined by an expert of his choice.

17.2 If, as a result of an examination of the work referred to in GC17.1, it is established that the work was not performed in accordance with the contract, then, in addition to and without limiting or otherwise affecting any of Her Majesty's rights and remedies under the contract either at law or in equity, the Contractor shall pay Her Majesty, on demand, all reasonable costs and expenses that were incurred by Her Majesty in having that examination performed.

GC18 Clearing of Site

18.1 The Contractor shall maintain the work and its site in a tidy condition and free from the accumulation of waste material and debris, in accordance with any directions of the Departmental Representative.

18.2 Before the issue of an interim certificate referred to in GC44.2, the Contractor shall remove all the plant and material not required for the performance of the remaining work, and all waste material and other debris, and shall cause the work and its site to be clean and suitable for occupancy by Her Majesty's servants, unless otherwise stipulated in the contract.

18.3 Before the issue of a final certificate referred to in GC44.1, the Contractor, shall remove from the work and its site all of the surplus plant and material and any waste material and other debris.

18.4 The Contractor's obligations described in GC18.1 to GC18.3 do not extend to waste material and other debris caused by Her Majesty's servants or contractors and workers referred to in GC16.1.

GC19 Contractor's Superintendent

19.1 The Contractor shall, forthwith upon the award of the contract, designate a superintendent.

19.2 The Contractor shall forthwith notify the Departmental Representative of the name, address and telephone number of a superintendent designate pursuant to GC19.1.



- 19.3 A superintendent designated pursuant to GC19.1 shall be in full charge of the operations of the Contractor in the performance of the work and is authorized to accept any notice, consent, order, direction, decision or other communication on behalf of the Contractor that may be given to the superintendent under the contract.
- 19.4 The Contractor shall, until the work has been completed, keep a competent superintendent at the work site during working hours.
- 19.5 The Contractor shall, upon the request of the Departmental Representative, remove any superintendent who, in the opinion of the Departmental Representative, is incompetent or has been conducting himself improperly and shall forthwith designate another superintendent who is acceptable to the Departmental Representative.
- 19.6 Subject to GC19.5, the Contractor shall not substitute a superintendent without the written consent of the Departmental Representative.
- 19.7 A breach by the Contractor of GC19.6 entitles the Departmental Representative to refuse to issue any certificate referred to in GC44 until the superintendent has returned to the work site or another superintendent who is acceptable to the Departmental Representative has been substituted.

GC20 National Security

- 20.1 If the Minister is of the opinion that the work is of a class or kind that involves the national security, he may order the Contractor
- 20.1.1 to provide him with any information concerning persons employed or to be employed by him for purposes of the contract; and
 - 20.1.2 to remove any person from the work and its site if, in the opinion of the Minister, that person may be a risk to the national security.
- 20.2 The Contractor shall, in all contracts with persons who are to be employed in the performance of the contract, make provision for his performance of any obligation that may be imposed upon him under GC19 to GC21.
- 20.3 The Contractor shall comply with an order of the Minister under GC20.1

GC21 Unsuitable Workers

- 21.1 The Contractor shall, upon the request of the Departmental Representative, remove any person employed by him for purposes of the contract who, in the opinion of the Departmental Representative, is incompetent or has conducted himself improperly, and the Contractor shall not permit a person who has been removed to return to the work site.

GC22 Increased or Decreased Costs



- 22.1 The amount set out in the Articles of Agreement shall not be increased or decreased by reason of any increase or decrease in the cost of the work that is brought about by an increase or decrease in the cost of labour, plant or material or any wage adjustment arising pursuant to the Labour Conditions.
- 22.2 Notwithstanding GC22.1 and GC35, an amount set out in the Articles of Agreement shall be adjusted in the manner provided in GC22.3, if any change in a tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property
- 22.2.1 occurs after the date of the submission by the Contractor of his tender for the contract,
- 22.2.2 applies to material, and
- 22.2.3 affects the cost to the Contractor of that material.
- 22.3 If a change referred to in GC22.2 occurs, the appropriate amount set out in the Articles of Agreement shall be increased or decreased by an amount equal to the amount that is established by an examination of the relevant records of the Contractor referred to in GC51 to be the increase or decrease in the cost incurred that is directly attributable to that change.
- 22.4 For the purpose of GC22.2, where a tax is changed after the date of submission of the tender but public notice of the change has been given by the Minister of Finance before that date, the change shall be deemed to have occurred before the date of submission of the tender.

GC23 Canadian Labour and Material

- 23.1 The Contractor shall use Canadian labour and material in the performance of the work to the full extent to which they are procurable, consistent with proper economy and expeditious carrying out of the work.
- 23.2 Subject to GC23.1, the Contractor shall, in the performance of the work, employ labour from the locality where the work is being performed to the extent to which it is available, and shall use the offices of the Canada Employment Centres for the recruitment of workers wherever practicable.
- 23.3 Subject to GC23.1 and GC23.2, the Contractor shall, in the performance of the work, employ a reasonable proportion of persons who have been on active service with the armed forces of Canada and have been honourably discharged therefrom.

GC24 Protection of Work and Documents

- 24.1 The Contractor shall guard or otherwise protect the work and its site, and protect the contract, specifications, plans, drawings, information, material, plant and real property, whether or not they are supplied by Her Majesty to the Contractor, against loss or damage from any cause, and he shall not use, issue, disclose or dispose of them without the written consent of the Minister, except as may be essential for the performance of the work.



- 24.2 If any document or information given or disclosed to the Contractor is assigned a security rating by the person who gave or disclosed it, the Contractor shall take all measures directed by the Departmental Representative to be taken to ensure the maintenance of the degree of security that is ascribed to that rating.
- 24.3 The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the Minister to inspect or to take security measures in respect of the work and its site.
- 24.4 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC24.1 to GC24.3.

GC25 Public Ceremonies and Signs

- 25.1 The Contractor shall not permit any public ceremony in connection with the work without the prior consent of the Minister.
- 25.2 The Contractor shall not erect or permit the erection of any sign or advertising on the work or its site without the prior consent of the Departmental Representative.

GC26 Precautions against Damage, Infringement of Rights, Fire, and Other Hazards

- 26.1 The Contractor shall, at his own expense, do whatever is necessary to ensure that
- 26.1.1 no person, property, right, easement or privilege is injured, damaged or infringed by reasons of the Contractor's activities in performing the contract;
 - 26.1.2 pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the work or plant;
 - 26.1.3 fire hazards in or about the work or its site are eliminated and, subject to any direction that may be given by the Departmental Representative, any fire is promptly extinguished;
 - 26.1.4 the health and safety of all persons employed in the performance of the work is not endangered by the method or means of its performance;
 - 26.1.5 adequate medical services are available to all persons employed on the work or its site at all times during the performance of the work;
 - 26.1.6 adequate sanitation measures are taken in respect of the work and its site; and
 - 26.1.7 all stakes, buoys and marks placed on the work or its site by or under the authority of the Departmental Representative are protected and are not removed, defaced, altered or destroyed.
- 26.2 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure



compliance with or to remedy a breach of GC26.1.

- 26.3 The Contractor shall, at his own expense, comply with a direction of the Departmental Representative made under GC26.2.

GC27 Insurance

- 27.1 The Contractor shall, at his own expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the Departmental Representative in accordance with the requirements of the Insurance Conditions "E".

- 27.2 The insurance contracts referred to in GC27.1 shall

27.2.1 be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in Insurance Conditions "E", and

27.2.2 provide for the payment of claims under such insurance contracts in accordance with GC28.

GC28 Insurance Proceeds

- 28.1 In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid directly to Her Majesty, and

28.1.1 the monies so paid shall be held by Her Majesty for the purposes of the contract, or

28.1.2 if Her Majesty elects, shall be retained by Her Majesty, in which event they vest in Her Majesty absolutely.

- 28.2 In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid by the insurer directly to the claimant.

- 28.3 If an election is made pursuant to GC28.1, the Minister may cause an audit to be made of the accounts of the Contractor and of Her Majesty in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between

28.3.1 the aggregate of the amount of the loss or damage suffered or sustained by Her Majesty, including any cost incurred in respect of the clearing and cleaning of the work and its site and any other amount that is payable by the Contractor to Her Majesty under the contract, minus any monies retained pursuant to GC28.12, and

28.3.2 the aggregate of the amounts payable by Her Majesty to the Contractor pursuant to the contract up to the date of the loss or damage.

- 28.4 A difference that is established pursuant to GC28.3 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the



creditor.

- 28.5 When payment of a deficiency has been made pursuant to GC28.4, all rights and obligations of Her Majesty and the Contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in GC28.3, be deemed to have been expended and discharged.
- 28.6 If an election is not made pursuant to GC28.1.2 the Contractor shall, subject to GC28.7, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at his own expense as if that part of the work had not yet been performed.
- 28.7 When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in GC 28.6, Her Majesty shall pay him out of the monies referred to in GC28.1 so far as they will thereunto extend.
- 28.8 Subject to GC28.7, payment by Her Majesty pursuant to GC28.7 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding TP4.4.1 and TP4.4.2.

GC29 Contract Security

- 29.1 The Contractor shall obtain and deliver contract security to the Departmental Representative in accordance with the provisions of the Contract Security Conditions.
- 29.2 If the whole or a part of the contract security referred to in GC29.1 is in the form of a security deposit, it shall be held and disposed of in accordance with GC43 and GC45.
- 29.3 If a part of the contract security referred to in GC29.1 is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond on the work site.

GC30 Changes in the Work

- 30.1 Subject to GC5, the Departmental Representative may, at any time before he issues his Final Certificate of Completion,
- 30.1.1 order work or material in addition to that provided for in the Plans and Specifications;
and
- 30.1.2 delete or change the dimensions, character, quantity, quality, description, location or position of the whole or any part of the work or material provided for in the Plans and Specifications or in any order made pursuant to GC30.1.1,
- if that additional work or material, deletion, or change is, in his opinion, consistent with the general intent of the original contract.
- 30.2 The Contractor shall perform the work in accordance with such orders, deletions and changes that are made by the Departmental Representative pursuant to GC30.1 from time to time as if they had appeared in and been part of the Plans and Specifications.



- 30.3 The Departmental Representative shall determine whether or not anything done or omitted by the Contractor pursuant to an order, deletion or change referred to in GC30.1 increased or decreased the cost of the work to the Contractor.
- 30.4 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been increased, Her Majesty shall pay the Contractor the increased cost that the Contractor necessarily incurred for the additional work calculated in accordance with GC49 or GC50.
- 30.5 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been decreased, Her Majesty shall reduce the amount payable to the Contractor under the contract by an amount equal to the decrease in the cost caused by the deletion or change referred to in GC30.1.2 and calculated in accordance with GC49.
- 30.6 GC30.3 to GC30.5 are applicable only to a contract or a portion of a contract for which a Fixed Price Arrangement is stipulated in the contract.
- 30.7 An order, deletion or change referred to in GC30.1 shall be in writing, signed by the Departmental Representative and given to the Contractor in accordance with GC11.

GC31 Interpretation of Contract by Departmental Representative

- 31.1 If, at any time before the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, any question arises between the parties about whether anything has been done as required by the contract or about what the Contractor is required by the contract to do, and, in particular but without limiting the generality of the foregoing, about
- 31.1.1 the meaning of anything in the Plans and Specification,
 - 31.1.2 the meaning to be given to the Plans and Specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their working or intention,
 - 31.1.3 whether or not the quality or quantity of any material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the contract,
 - 31.1.4 whether or not the labour, plant or material provided by the Contractor for performing the work and carrying out the contract are adequate to ensure that the work will be performed in accordance with the contract and that the contract will be carried out in accordance with its terms,
 - 31.1.5 what quantity of any kind of work has been completed by the Contractor, or
 - 31.1.6 the timing and scheduling of the various phases of the performance of the work,
- the question shall be decided by the Departmental Representative whose decision shall be final and conclusive in respect of the work.
- 31.2 The Contractor shall perform the work in accordance with any decisions of the Departmental



Representative that are made under GC31.1 and in accordance with any consequential directions given by the Departmental Representative.

GC32 Warranty and Rectification of Defects in Work

- 32.1 Without restricting any warranty or guarantee implied or imposed by law or contained in the contract documents, the Contractor shall, at his own expense,
- 32.1.1 rectify and make good any defect or fault that appears in the work or comes to the attention of the Minister with respect to those parts of the work accepted in connection with the Interim Certificate of Completion referred to GC44.2 within 12 months from the date of the Interim Certificate of Completion;
- 32.1.2 rectify and make good any defect or fault that appears in or comes to the attention of the Minister in connection with those parts of the work described in the Interim Certificate of Completion referred to in GC44.2 within 12 months from the date of the Final Certificate of Completion referred to in GC44.1.
- 32.2 The Departmental Representative may direct the Contractor to rectify and make good any defect or fault referred to in GC32.1 or covered by any other expressed or implied warranty or guarantee.
- 32.3 A direction referred to in GC32.2 shall be in writing, may include a stipulation in respect of the time within which a defect or fault is required to be rectified and made good by the Contractor, and shall be given to the Contractor in accordance with GC11.
- 32.4 The Contractor shall rectify and make good any defect or fault described in a direction given pursuant to GC32.2 within the time stipulated therein.

GC33 Non-Compliance by Contractor

- 33.1 If the Contractor fails to comply with any decision or direction given by the Departmental Representative pursuant to GC18, GC24, GC26, GC31 or GC32, the Departmental Representative may employ such methods as he deems advisable to do that which the Contractor failed to do.
- 33.2 The Contractor shall, on demand, pay Her Majesty an amount that is equal to the aggregate of all cost, expenses and damage incurred or sustained by Her Majesty by reason of the Contractor's failure to comply with any decision or direction referred to in GC33.1, including the cost of any methods employed by the Departmental Representative pursuant to GC33.1.

GC34 Protesting Departmental Representative's Decisions

- 34.1 The Contractor may, within ten days after the communication to him of any decision or direction referred to in GC30.3 or GC33.1, protest that decision or direction.
- 34.2 A protest referred to in GC34.1 shall be in writing, contain full reasons for the protest, be signed



by the Contractor and be given to Her Majesty by delivery to the Departmental Representative.

- 34.3 If the Contractor gives a protest pursuant to GC34.2, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action he considers appropriate in the circumstances.
- 34.4 The giving of a protest by the Contractor pursuant to GC34.2 shall not relieve him from complying with the decision or direction that is the subject of the protest.
- 34.5 Subject to GC34.6, the Contractor shall take any action referred to in GC34.3 within three months after the date that a Final Certificate of Completion is issued under GC44.1 and not afterwards.
- 34.6 The Contractor shall take any action referred to in GC34.3 resulting from a direction under GC32 within three months after the expiry of a warranty or guarantee period and not afterwards.
- 34.7 Subject to GC34.8, if Her Majesty determines that the Contractor's protest is justified, Her Majesty shall pay the Contractor the cost of the additional labour, plant and material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 34.8 Costs referred to in GC34.7 shall be calculated in accordance with GC48 to GC50.

GC35 Changes in Soil Conditions and Neglect or Delay by Her Majesty

35.1 Subject to GC35.2 no payment, other than a payment that is expressly stipulated in the contract, shall be made by Her Majesty to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

35.2 If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to

35.2.1 a substantial difference between the information relating to soil conditions at the work site that is contained in the Plans and Specifications or other documents supplied to the Contractor for his use in preparing his tender or a reasonable assumption of fact based thereon made by the Contractor, and the actual soil conditions encountered by the Contractor at the work site during the performance of the contract, or

35.2.2 any neglect or delay that occurs after the date of the contract on the part of Her Majesty in providing any information or in doing any act that the contract either expressly requires Her Majesty to do or that would ordinarily be done by an owner in accordance with the usage of the trade,

he shall, within ten days of the date the actual soil conditions described in GC35.2.1 were encountered or the neglect or delay described in GC35.2.2 occurred, give the Departmental Representative written notice of his intention to claim for that extra expense or that loss or damage.

35.3 When the Contractor has given a notice referred to in GC35.2, he shall give the Departmental Representative a written claim for extra expense or loss or damage within 30 days of the date that



a Final Certificate of Completion referred to in GC44.1 is issued and not afterwards.

- 35.4 A written claim referred to in GC35.3 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable the Departmental Representative to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as the Departmental Representative requires from time to time.
- 35.5 If the Departmental Representative determines that a claim referred to in GC35.3 is justified, Her Majesty shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC47 to GC50.
- 35.6 If, in the opinion of the Departmental Representative, an occurrence described in GC35.2.1 results in a savings of expenditure by the Contractor in performing the contract, the amount set out in the Articles of Agreement shall, subject to GC35.7, be reduced by an amount that is equal to the saving.
- 35.7 The amount of the saving referred to in GC35.6 shall be determined in accordance with GC47 to GC49.
- 35.8 If the Contractor fails to give a notice referred to in GC35.2 and a claim referred to in GC35.3 within the times stipulated, an extra payment shall not be made to him in respect of the occurrence.

GC36 Extension of Time

- 36.1 Subject to GC36.2, the Departmental Representative may, on the application of the Contractor made before the day fixed by the Articles of Agreement for completion of the work or before any other date previously fixed under this General Condition, extend the time for its completion by fixing a new date if, in the opinion of the Departmental Representative, causes beyond the control of the Contractor have delayed its completion.
- 36.2 An application referred to in GC36.1 shall be accompanied by the written consent of the bonding company whose bond forms part of the contract security.

GC37 Assessments and Damages for Late Completion

- 37.1 For the purposes of this General Condition
- 37.1.1 the work shall be deemed to be completed on the date that an Interim Certificate of Completion referred to in GC44.2 is issued, and
- 37.1.2 "period of delay" means the number of days commencing on the day fixed by the Articles of Agreement for completion of the work and ending on the day immediately preceding the day on which the work is completed but does not include any day within a period of extension granted pursuant to GC36.1, and any other day on which, in the opinion of the Departmental Representative, completion of the work was delayed for reasons beyond the control of the Contractor.



- 37.2 If the Contractor does not complete the work by the day fixed for its completion by the Articles of Agreement but completes it thereafter, the Contractor shall pay Her Majesty an amount equal to the aggregate of
- 37.2.1 all salaries, wages and travelling expenses incurred by Her Majesty in respect of persons overseeing the performance of the work during the period of delay;
 - 37.2.2 the cost incurred by Her Majesty as a result of the inability to use the completed work for the period of delay; and
 - 37.2.3 all other expenses and damages incurred or sustained by Her Majesty during the period of delay as a result of the work not being completed by the day fixed for its completion.
- 37.3 The Minister may waive the right of Her Majesty to the whole or any part of the amount payable by the Contractor pursuant to GC37.2 I, in the opinion of the Minister, it is in the public interest to do so.

GC38 Taking the Work Out of the Contractor's Hands

- 38.1 The Minister may, at his sole discretion, by giving a notice in writing to the Contractor in accordance with GC11, take all or any part of the work out of the Contractor's hands, and may employ such means as he sees fit to have the work completed if the Contractor
- 38.1.1 Has not, within six days of the Minister or the Departmental Representative giving notice to the Contractor in writing in accordance with GC11, remedied any delay in the commencement or any default in the diligent performance of the work to the satisfaction of the Departmental Representative;
 - 38.1.2 has defaulted in the completion of any part of the work within the time fixed for its completion by the contract;
 - 38.1.3 has become insolvent;
 - 38.1.4 has committed an act of bankruptcy;
 - 38.1.5 has abandoned the work;
 - 38.1.6 has made an assignment of the contract without the consent required by GC3.1; or
 - 38.1.7 has otherwise failed to observe or perform any of the provisions of the contract.
- 38.2 If the whole or any part of the work is taken out of the Contractor's hands pursuant to GC38.1,
- 38.2.1 the Contractor's right to any further payment that is due or accruing due under the contract is, subject only to GC38.4, extinguished, and
 - 38.2.2 the Contractor is liable to pay Her Majesty, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Her Majesty in respect of the



Contractor's failure to complete the work.

- 38.3 If the whole or any part of the work that is taken out of the Contractor's hands pursuant to GC38.1 is completed by Her Majesty, the Departmental Representative shall determine the amount, if any, of the holdback or a progress claim that had accrued and was due prior to the date on which the work was taken out of the Contractor's hands and that is not required for the purposes of having the work performed or of compensating Her Majesty for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 38.4 Her Majesty may pay the Contractor the amount determined not to be required pursuant to GC38.3.

GC39 Effect of Taking the Work Out of the Contractor's Hands

- 39.1 The taking of the work or any part thereof out of the Contractor's hands pursuant to GC38 does not operate so as to relieve or discharge him from any obligation under the contract or imposed upon him by law except the obligation to complete the performance of that part of the work that was taken out of his hands.
- 39.2 If the work or any part thereof is taken out of the Contractor's hands pursuant to GC38, all plant and material and the interest of the Contractor is all real property, licenses, powers and privileges acquired, used or provided by the Contractor under the contract shall continue to be the property of Her Majesty without compensation to the Contractor.
- 39.3 When the Departmental Representative certifies that any plant, material, or any interest of the Contractor referred to in GC39.2 is no longer required for the purposes of the work, or that it is not in the interest of Her Majesty to retain that plant, material or interest, it shall revert to the Contractor.

G40 Suspension of Work by Minister

- 40.1 The Minister may, when in his opinion it is in the public interest to do so, require the Contractor to suspend performance of the work either for a specified or an unspecified period by giving a notice of suspension in writing to the Contractor in accordance with GC11.
- 40.2 When a notice referred to in GC40.1 is received by the Contractor in accordance with GC11, he shall suspend all operations in respect of the work except those that, in the opinion of the Departmental Representative, are necessary for the care and preservation of the work, plant and material.
- 40.3 The Contractor shall not, during a period of suspension, remove any part of the work, plant or material from its site without the consent of the Departmental Representative.
- 40.4 If a period of suspension is 30 days or less, the Contractor shall, upon the expiration of that period, resume the performance of the work and he is entitled to be paid the extra cost, calculated in accordance with GC48 to GC50, of any labour, plant and material necessarily incurred by him as a result of the suspension.



- 40.5 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor agree that the performance of the work will be continued by the Contractor, the Contractor shall resume performance of the work subject to any terms and conditions agreed upon by the Minister and the Contractor.
- 40.6 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor do not agree that performance of the work will be continued by the Contractor or upon the terms and conditions under which the Contractor will continue the work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC41.

GC41 Termination of Contract

- 41.1 The Minister may terminate the contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC11.
- 41.2 When a notice referred to in GC41.1 is received by the Contractor in accordance with GC11, he shall, subject to any conditions stipulated in the notice, forthwith cease all operations in performance of the contract.
- 41.3 If the contract is terminated pursuant to GC41.1, Her Majesty shall pay the Contractor, subject to GC41.4, an amount equal to
- 41.3.1 the cost to the contractor of all labour, plant and material supplied by him under the contract up to the date of termination in respect of a contract or part thereof for which a Unit Price Arrangement is stipulated in the contract, or
 - 41.3.2 the lesser of
 - 41.3.2.1 an amount, calculated in accordance with the Terms and Payment, that would have been payable to the Contractor had he completed the work, and
 - 41.3.2.2 an amount that is determined to be due to the Contractor pursuant to GC49 in respect of a contract or part thereof for which a Fixed Price Arrangement is stipulated in the contract
- less the aggregate of all amounts that were paid to the Contractor by Her Majesty and all amounts that are due to Her Majesty from the Contractor pursuant to the contract.
- 41.4 If Her Majesty and the Contractor are unable to agree about an amount referred to in GC41.3 that amount shall be determined by the method referred to in GC50.

GC42 Claims Against and Obligations of the Contractor or Subcontractor

- 42.1 Her Majesty may, in order to discharge lawful obligations of and satisfy claims against the Contractor or a subcontractor arising out of the performance of the contract, pay any amount that is due and payable to the Contractor pursuant to the contract directly to the obligees of and the claimants against the Contractor or the subcontractor but such amount if any, as is paid by Her Majesty, shall not exceed that amount which the Contractor would have been obliged to pay to



such claimant had the provisions of the Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, been applicable to the work. Any such claimant need not comply with the provisions of such legislation setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which claimant might have had;

42.2 Her Majesty will not make any payment as described in GC42.1 unless and until that claimant shall have delivered to Her Majesty:

42.2.1 a binding and enforceable Judgment or Order of a court of competent jurisdiction setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or

42.2.2 a final and enforceable award of an arbitrator setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or

42.2.3 the consent of the Contractor authorizing a payment.

For the purposes of determining the entitlement of a claimant pursuant to GC42.2.1 and GC42.2.2, the notice required by GC42.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by any applicable legislation.

42.3 The Contractor shall, by the execution of his contract, be deemed to have consented to submit to binding arbitration at the request of any claimant those questions that need be answered to establish the entitlement of the claimant to payment pursuant to the provisions of GC42.1 and such arbitration shall have as parties to it any subcontractor to whom the claimant supplied material, performed work or rented equipment should such subcontractor wish to be adjoined and the Crown shall not be a party to such arbitration and, subject to any agreement between the Contractor and the claimant to the contrary, the arbitration shall be conducted in accordance with the Provincial or Territorial legislation governing arbitration applicable in the Province or Territory in which the work is located.

42.4 A payment made pursuant to GC42.1 is, to the extent of the payment, a discharge of Her Majesty's liability to the Contractor under the contract and may be deducted from any amount payable to the Contractor under the contract.

42.5 To the extent that the circumstances of the work being performed for Her Majesty permit, the Contractor shall comply with all laws in force in the Province or Territory where the work is being performed relating to payment period, mandatory holdbacks, and creation and enforcement of mechanics' liens, builders' liens or similar legislation or in the Province of Quebec, the law relating to privileges.

42.6 The Contractor shall discharge all his lawful obligations and shall satisfy all lawful claims against him arising out of the performance of the work at least as often as the contract requires Her



Majesty to pay the Contractor.

- 42.7 The Contractor shall, whenever requested to do so by the Departmental Representative, make a statutory declaration deposing to the existence and condition of any obligations and claims referred to in GC42.6.
- 42.8 GC42.1 shall only apply to claims and obligations
- 42.8.1 the notification of which has been received by the Departmental Representative in writing before payment is made to the Contractor pursuant to TP4.10 and within 120 days of the date on which the claimant
- 42.8.1.1 should have been paid in full under the claimant's contract with the Contractor or subcontractor where the claim is for money that was lawfully required to be held back from the claimant; or
- 42.8.1.2 performed the last of the services, work or labour, or furnished the last of the material pursuant to the claimant's contract with the Contractor or subcontractor where the claim is not for money referred to in GC42.8.1.1, and
- 42.8.2 the proceedings to determine the right to payment of which, pursuant to GC42.2. shall have commenced within one year from the date that the notice referred to in GC42.8.1 was received by the Departmental Representative, and
- the notification required by GC42.8.1 shall set forth the amount claimed to be owing and the person who by contract is primarily liable.
- 42.9 Her Majesty may, upon receipt of a notice of claim under GC42.8.1, withhold from any amount that is due and payable to the Contractor pursuant to the contract the full amount of the claim or any portion thereof.
- 42.10 The Departmental Representative shall notify the Contractor in writing of receipt of any claim referred to in GC42.8.1 and of the intention of Her Majesty to withhold funds pursuant to GC42.9 and the Contractor may, at any time thereafter and until payment is made to the claimant, be entitled to post, with Her Majesty, security in a form acceptable to Her Majesty in an amount equal to the value of the claim, the notice of which is received by the Departmental Representative and upon receipt of such security Her Majesty shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of GC42.9 in respect of the claim of any claimant for whom the security stands.

GC43 Security Deposit – Forfeiture or Return

- 43.1 If
- 43.1.1 the work is taken out of the Contractor's hands pursuant to GC38,
- 43.1.2 the contract is terminated pursuant to GC41, or
- 43.1.3 the Contractor is in breach of or in default under the contract,



Her Majesty may convert the security deposit, if any, to Her own use.

- 43.2 If Her Majesty converts the contract security pursuant to GC43.1, the amount realized shall be deemed to be an amount due from Her Majesty to the Contractor under the contract.
- 43.3 Any balance of an amount referred to in GC43.2 that remains after payment of all losses, damage and claims of Her Majesty and others shall be paid by Her Majesty to the Contractor if, in the opinion of the Departmental Representative, it is not required for the purposes of the contract.

GC44 Departmental Representative's Certificates

44.1 On the date that

44.1.1 the work has been completed, and

44.1.2 the Contractor has complied with the contract and all orders and directions made pursuant thereto,

both to the satisfaction of the Departmental Representative, the Departmental Representative shall issue a Final Certificate of Completion to the Contractor.

44.2 If the Departmental Representative is satisfied that the work is substantially complete he shall, at any time before he issues a certificate referred to in GC44.1, issue an Interim Certificate of Completion to the Contractor, and

44.2.1 for the purposes of GC44.2 the work will be considered to be substantially complete,

44.2.1.1 when the work under the contract or a substantial part thereof is, in the opinion of the Departmental Representative, ready for use by Her Majesty or is being used for the purpose intended; and

44.2.1.2 when the work remaining to be done under the contract is, in the opinion of the Departmental Representative, capable of completion or correction at accost of not more than

44.2.1.2.1 -3% of the first \$500,000, and

44.2.1.2.2 -2% of the next \$500,000, and

44.2.1.2.3 -1% of the balance

of the value of the contract at the time this cost is calculated.

44.3 For the sole purpose of GC44.2.1.2, where the work or a substantial part thereof is ready for use or is being used for the purposes intended and the remainder of the work or a part thereof cannot be completed by the time specified in A2.1, or as amended pursuant to GC36, for reasons beyond the control of the Contractor or where the Departmental Representative and the Contractor agree not to complete a part of the work within the specified time, the cost of that part of the work



which was either beyond the control of the Contractor to complete or the Departmental Representative and the Contractor have agreed not to complete by the time specified shall be deducted from the value of the contract referred to GC44.2.1.2 and the said cost shall not form part of the cost of the work remaining to be done in determining substantial completion.

44.4 An Interim Certificate of Completion referred to in GC44.2 shall describe the parts of the work not completed to the satisfaction of the Departmental Representative and all things that must be done by the Contractor

44.4.1 before a Final Certificate of Completion referred to in GC44.1 will be issued, and

44.4.2 before the 12-month period referred to in GC32.1.2 shall commence for the said parts and all the said things.

44.5 The Departmental Representative may, in addition to the parts of the work described in an Interim Certificate of Completion referred to in GC44.2, require the Contractor to rectify any other parts of the work not completed to his satisfaction and to do any other things that are necessary for the satisfactory completion of the work.

44.6 If the contract or a part thereof is subject to a Unit Price Arrangement, the Departmental Representative shall measure and record the quantities of labour, plant and material, performed, used and supplied by the Contractor in performing the work and shall, at the request of the Contractor, inform him of those measurements.

44.7 The Contractor shall assist and co-operate with the Departmental Representative in the performance of his duties referred to in GC44.6 and shall be entitled to inspect any record made by the Departmental Representative pursuant to GC44.6.

44.8 After the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, he shall, if GC44.6 applies, issue a Final Certificate of Measurement.

44.9 A Final Certificate of Measurement referred to in GC44.8 shall

44.9.1 contain the aggregate of all measurements of quantities referred to in GC44.6, and

44.9.2 be binding upon and conclusive between Her Majesty and the Contractor as to the quantities referred to therein.

GC45 Return of Security Deposit

45.1 After an Interim Certificate of Completion referred to in GC44.2 has been issued, Her Majesty shall, if the Contractor is not in breach of or in default under the contract, return to the Contractor all or any part of the security deposit that, in the opinion of the Departmental Representative, is not required for the purposes of the contract.

45.2 After a Final Certificate of Completion referred to in GC44.1 has been issued, Her Majesty shall return to the Contractor the remainder of any security deposit unless the contract stipulates otherwise.



- 45.3 If the security deposit was paid into the Consolidated Revenue Fund of Canada, Her Majesty shall pay interest thereon to the Contractor at a rate established from time to time pursuant to section 21(2) of the Financial Administration Act.

GC46 Clarification of Terms in GC47 to GC50

- 46.1 For the purposes of GC47 to GC50,
- 46.1.1 "Unit Price Table" means the table set out in the Articles of Agreement, and
- 46.1.2 "plant" does not include tools customarily provided by a tradesman in practicing his trade.

GC47 Additions or Amendments to Unit Price Table

- 47.1 Where a Unit Price Arrangement applies to the contract or a part thereof the Departmental Representative and the Contractor may, by an agreement in writing,
- 47.1.1 add classes of labour or material, and units of measurement, prices per unit and estimated quantities to the Unit Price Table if any labour, plant or material that is to be included in the Final Certificate of Measurement referred to in GC44.8 is not included in any class of labour, plant or material set out in the Unit Price Table; or
- 47.1.2 subject to GC47.2 and GC47.3, amend a price set out in the Unit Price Table for any class of labour, plant or material included therein if the Final Certificate of Measurement referred to in GC44.8 shows or is expected to show that the total quantity of that class of labour, plant or material actually performed, used or supplied by the Contractor in performing the work is
- 47.1.2.1 less than 85% of that estimated total quantity, or
- 47.1.2.2 in excess of 115% of that estimated total quantity.
- 47.2 In no event shall the total cost of an item set out in the Unit Price Table that has been amended pursuant to GC47.1.2.1 exceed the amount that would have been payable to the Contractor had the estimated total quantity actually been performed, used or supplied.
- 47.3 An amendment that is made necessary by GC47.1.2.2 shall apply only to the quantities that are in excess of 115%.
- 47.4 If the Departmental Representative and the Contractor do not agree as contemplated in GC47.1, the Departmental Representative shall determine the class and the unit of measurement of the labour, plant or material and, subject to GC47.2 and GC47.3, the price per unit therefore shall be determined in accordance with GC50.

GC48 Determination of Cost – Unit Price Table



- 48.1 Whenever, for the purposes of the contract, it is necessary to determine the cost of labour, plant or material, it shall be determined by multiplying the quantity of that labour, plant or material expressed in the unit set out in column 3 of the Unit Price Table by the price of that unit set out in column 5 of the Unit Price Table.

GC49 Determination of Cost – Negotiation

- 49.1 If the method described in GC48 cannot be used because the labour, plant or material is of a kind or class that is not set out in the Unit Price Table, the cost of that labour, plant or material for the purposes of the contract shall be the amount agreed upon from time to time by the Contractor and the Departmental Representative.
- 49.2 For the purposes of GC49.1, the Contractor shall submit to the Departmental Representative any necessary cost information requested by the Departmental Representative in respect of the labour, plant and material referred to in GC49.1

GC50 Determination of Cost – Failing Negotiation

- 50.1 If the methods described in GC47, GC48 or GC49 fail for any reason to achieve a determination of the cost of labour, plant and material for the purposes referred to therein, that cost shall be equal to the aggregate of
- 50.1.1 all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, plant and material that falls within one of the classes of expenditure described in GC50.2 that are directly attributable to the performance of the contract,
 - 50.1.2 an allowance for profit and all other expenditures or costs, including overhead, general administration cost, financing and interest charges, and every other cost, charge and expenses, but not including those referred to in GC50.1.1 or GC50.1.3 or a class referred to in GC50.2, in an amount that is equal to 10% of the sum of the expenses referred to in GC50.1.1, and
 - 50.1.3 interest on the cost determined under GC50.1.1 and GC50.1.2, which interest shall be calculated in accordance with TP9,

provide that the total cost of an item set out in the Unit Price Table that is subject to the provisions of GC47.1.2.1 does not exceed the amount that would have been payable to the Contractor had the estimated total quantity of the said item actually be performed, used or supplied.

- 50.2 For purposes of GC50.1.1 the classes of expenditure that may be taken into account in determining the cost of labour, plant and material are,
- 50.2.1 payments to subcontractors;
 - 50.2.2 wages, salaries and travelling expenses of employees of the Contractor while they are actually and properly engaged on the work, other than wages, salaries, bonuses, living



and travelling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor unless they are engaged at the work site with the approval of the Departmental Representative,

- 50.2.3 assessments payable under any statutory authority relating to workmen's compensation, unemployment insurance, pension plan or holidays with pay;
- 50.2.4 rent that is paid for plant or an amount equivalent of the said rent if the plant is owned by the Contractor that is necessary for and used in the performance of the work, if the rent of the equivalent amount is reasonable and use of that plant has been approved by the Departmental Representative;
- 50.2.5 payments for maintaining and operating plant necessary for and used in the performance of the work, and payments for effecting such repairs thereto as, in the opinion of the Departmental Representative, are necessary to the proper performance of the contract other than payments for any repairs to the plant arising out of defects existing before its allocation to the work;
- 50.2.6 payments for material that is necessary for and incorporated in the work, or that is necessary for and consumed in the performance of the contract;
- 50.2.7 payments for preparation, delivery, handling, erection, installation, inspection protection and removal of the plant and material necessary for and used in the performance of the contract; and
- 50.2.8 any other payments made by the Contractor with the approval of the Departmental Representative that are necessary for the performance of the contract.

GC51 Records to be kept by Contractor

51.1 The Contractor shall

- 51.1.1 maintain full records of his estimated and actual cost of the work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto.
- 51.1.2 make all records and material referred to in GC5.1.1 available to audit and inspection by the Minister and the Deputy Receiver General for Canada or by persons acting on behalf of either of both of them, when requested;
- 51.1.3 allow any of the person referred to in GC51.1.2 to make copies of and to take extracts from any of the records and material referred to in GC51.1.1; and
- 51.1.4 furnish any person referred to in GC51.1.2 with any information he may require from time to time in connection with such records and material.

- 51.2 The records maintained by the Contractor pursuant to GC51.1.1 shall be kept intact by the Contractor until the expiration of two years after the date that a Final Certificate of Completion referred to in GC44.1 was issued or until the expiration of such other period of time as the



Minister may direct.

- 51.3 The Contractor shall cause all subcontractors and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with GC51.1 and GC51.2 as if they were the Contractor.

GC52 Conflict of Interest

- 52.1 It is a term of this contract that no former public office holder who is not in compliance with the Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from this contract.

GC53 Contractor Status

- 53.1 The Contractor shall be engaged under the contract as an independent contractor.
- 53.2 The Contractor and any employee of the said Contractor is not engaged by the contract as an employee, servant or agent of Her Majesty.
- 53.3 For the purposes of GC53.1 and GC53.2 the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Unemployment Insurance, Worker's Compensation or Income Tax.



GENERAL CONDITONS

- IC 1 Proof of Insurance**
- IC 2 Risk Management**
- IC 3 Payment of Deductible**
- IC 4 Insurance Coverage**

GENERAL INSUANCE COVERAGES

- GCI 1 Insured**
- GIC 2 Period of Insurance**
- GIC 3 Proof of Insurance**
- GIC 4 Notification**

COMMERCIAL GENERAL LIABILITY

- CGL 1 Scope of Policy**
- CGL 2 Coverages/Provisions**
- CGL 3 Additional Exposures**
- CGL 4 Insurance Proceeds**
- CGL 5 Deductible**

BUILDER'S RISK – INSTALLATION FLOATER – ALL RISKS

- BR 1 Scope of Policy**
- BR 2 Property Insured**
- BR 3 Insurance Proceeds**
- BR 4 Amount of Insurance**
- BR 5 Deductible**
- BR 6 Subrogation**
- BR 7 Exclusion Qualifications**

INSURER'S CERTIFICATE OF INSURANCE



General Conditions

IC 1 Proof of Insurance (02/12/03)

Within thirty (30) days after acceptance of the Contractor's tender, the Contractor shall, unless otherwise directed in writing by the Contracting Officer, deposit with the Contracting Officer an Insurer's Certificate of Insurance in the form displayed in this document and, if requested by the Contracting Officer, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Insurance Coverage Requirements shown hereunder.

IC 2 Risk Management (01/10/94)

The provisions of the Insurance Coverage Requirements contained hereunder are not intended to cover all of the Contractor's obligations under GC8 of the General Conditions "C" of the contract. Any additional risk management measures or additional insurance coverages the Contractor may deem necessary to fulfill its obligations under GC8 shall be at its own discretion and expense.

IC 3 Payment of Deductible (01/10/94)

The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IC 4 Insurance Coverage (02/12/03)

The Contractor has represented that it has in place and effect the appropriate and usual liability insurance coverage as required by these Insurance Conditions and the Contractor has warranted that it shall obtain, in a timely manner and prior to commencement of the Work, the appropriate and usual property insurance coverage as required by these Insurance Conditions and, further, that it shall maintain all required insurance policies in place and effect as required by these Insurance Conditions.



INSURANCE COVERAGE REQUIREMENTS

PART I GENERAL INSURANCE COVERAGES (GIC)

GCI 1 Insured (02/12/03)

Each insurance policy shall insure the Contractor, and shall include, as an Additional Named Insured, Her Majesty the Queen in right of Canada, represented by the National Research Council Canada.

GIC 2 Period of Insurance (02/12/03)

Unless otherwise directed in writing by the Contracting Officer or otherwise stipulated elsewhere in these Insurance Conditions, the policies required hereunder shall be in force and be maintained from the date of the contract award until the day of issue of the Departmental Representative's Final Certificate of Completion.

GIC 3 Proof of Insurance (01/10/94)

Within twenty five (25) days after acceptance of the Contractor's tender, the Insurer shall, unless otherwise directed by the Contractor, deposit with the Contractor an Insurer's Certificate of Insurance in the form displayed in the document and, if requested, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the requirements of these Insurance Coverages.

GIC 4 Notification (01/10/94)

Each Insurance policy shall contain a provision that (30) days prior written notice shall be given by the Insurer to Her Majesty in the event of any material change in or cancellation of coverage. Any such notice received by the Contractor shall be transmitted forthwith to Her Majesty.

PART II COMMERCIAL GENERAL LIABILITY

CGL 1 Scope of Policy (01/10/94)

The policy shall be written on a form similar to that known and referred to in the insurance industry as IBC 2100 – Commercial General Liability policy (Occurrence form) and shall provide for limit of liability of not less than \$2,000,000 inclusive for Bodily Injury and Property Damage for any one occurrence or series of occurrences arising out of one cause. Legal or defence cost incurred in respect of a claim or claims shall not operate to decrease the limit of liability.

CGL 2 Coverages/Provisions (01/10/94)



The policy shall include but not necessarily be limited to the following coverages/provisions.

- 2.1 Liability arising out of or resulting from the ownership, existence, maintenance or use of premises by the Contractor and operations necessary or incidental to the performance of this contract.
- 2.2 "Broad Form" Property Damage including the loss of use of property.
- 2.3 Removal or weakening of support of any building or land whether such support be natural or otherwise.
- 2.4 Elevator liability (including escalators, hoists and similar devices).
- 2.5 Contractor's Protective Liability
- 2.6 Contractual and Assumed Liabilities un this contact.
- 2.7 Completed Operations Liability – The insurance, including all aspects of this Part II of these Insurance Conditions shall continue for a period of at least one (1) year beyond the date of the Departmental Representative's Final Certificate of Completion for the Completed Operations.
- 2.8 Cross Liability – The Clause shall be written as follows:

Cross Liability – The insurance as is afforded by this policy shall apply in respect to any claim or action brought against any one Insured by any other Insured. The coverage shall apply in the same manner and to the same extent as though a separate policy had been issued to each Insured. The inclusion herein of more than one Insured shall not increase the limit of the Insurer's liability.

- 2.9 Severability of Interests – The Clause shall be written as follows:

Severability of Interests – This policy, subject to the limits of liability stated herein, shall apply separately to each Insured in the same manner and to the same extent as if a separate policy had been issued to each. The inclusion herein of more than one insured shall not increase the limit of the Insurer's liability.

CGL 3 Additional Exposures (02/12/03)

The policy shall either include or be endorsed to include the following exposures of hazards if the Work is subject thereto:

- 3.1 Blasting
- 3.2 Pile driving and calsson work
- 3.3 Underpinning
- 3.4 Risks associated with the activities of the Contractor on an active airport



- 3.5 Radioactive contamination resulting from the use of commercial isotopes
- 3.6 Damage to the portion of an existing building beyond that directly associated with an addition, renovation or installation contract.
- 3.7 Marine risks associated with the contraction of piers, wharves and docks.

**CGL 4 Insurance Proceeds
(01/10/94)**

Insurance Proceeds from this policy are usually payable directly to a Claimant/Third Party.

**CGL 5 Deductible
(02/12/03)**

This policy shall be issued with a deductible amount of not more than \$10,000 per occurrence applying to Property Damage claims only.

**PART III
BUILDER'S RISK – INSTALLATION FLOATER – ALL RISKS**

**BR 1 Scope of Policy
(01/10/94)**

The policy shall be written on an "All Risks" basis granting coverages similar to those provided by the forms known and referred to in the insurance industry as "Builder's Risk Comprehensive Form" or "Installation Floater – All Risks".

**BR 2 Property Insured
(01/10/94)**

The property insured shall include:

- 2.1 The Work and all property, equipment and materials intended to become part of the finished Work at the site of the project while awaiting, during and after installation, erection or construction including testing.
- 2.2 Expenses incurred in the removal from the construction site of debris of the property insured, including demolition of damaged property, de-icing and dewatering, occasioned by loss, destruction or damage to such property and in respect of which insurance is provided by this policy.

**BR 3 Insurance Proceeds
(01/10/94)**

- 3.1 Insurance proceeds from this policy are payable in accordance with GC28 of the General Conditions "C" of the contract.
- 3.2 This policy shall provide that the proceeds thereof are payable to Her Majesty or as the Minister may direct.



- 3.3 The Contractor shall do such things and execute such documents as are necessary to effect payment of the proceeds.

BR 4 Amount of Insurance
(01/10/94)

The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Her Majesty at the site of the project to be incorporated into and form part of the finished Work.

BR 5 Deductible
(02/12/03)

The Policy shall be issued with a deductible amount of not more than \$10,000.

BR 6 Subrogation
(01/10/94)

The following Clause shall be included in the policy:

"All rights of subrogation or transfer of rights are hereby waived against any corporation, firm, individual or other interest, with respect to which, insurance is provided by this policy".

BR 7 Exclusion Qualifications
(01/10/94)

The policy may be subject to the standard exclusions but the following qualifications shall apply:

- 7.1 Faulty materials, workmanship or design may be excluded only to the extent of the cost of making good thereof and shall not apply to loss or damage resulting therefrom.
- 7.2 Loss or damage caused by contamination by radioactive material may be excluded except for loss or damage resulting from commercial isotopes used for industrial measurements, inspection, quality control radiographic or photographic use.
- 7.3 Use and occupancy of the project or any part of section thereof shall be permitted where such use and occupancy is for the purpose for which the project is intended upon completion.



INSURER'S CERTIFICATE OF INSURANCE

(TO BE COMPLETED BY INSURER (NOT BOKER) AND DELIVERD TO NATIONAL RESEARCH COUNCIL CANADA WITH 30 DAYS FOLLOWING ACCEPTANCE OF TENDER)

CONTRACT

DESCRIPTION OF WORK	CONTRACT NUMBER	AWARD DATE
LOCATION		

INSURER

NAME
ADDRESS

BROKER

NAME
ADDRESS

INSURED

NAME OF CONTRACTOR
ADDRESS

ADDITIONAL INSURED

HER MAJESTY THE QUEEN IN RIGHT OF CANADA AS REPRESENTED BY THE NATIONAL RESEARCH COUNCIL CANADA

THIS DOCUENT CERTIFIES THAT THE FOLLOWING POLICES OF INSURANCE ARE AT PRESENT IN FORCE COVERING ALL OPERATIONS OF THE INSURE IN CONNECTION WITH THE CONTRACT MADE BETWEEN THE NAMED INSURED AND THE NATIONAL RESEARCH COUNCIL CANADA AND IN ACCORDANCE WITH THE INSURANCE CONDITIONS "E"

POLICY					
TYPE	NUMBER	INCEPTION DATE	EXPIRY DATE	LIMITS OF LIABILITY	DEDUCTIBLE
COMMERCIAL GENERAL LIABILITY					
BUILDERS RISK "AL RISKS"					
INSTALLATION FLOATER "ALL RISKS"					

THE INSURER AGREES TO NOTIFY THE NATIONAL RESEARCH COUNCIL CANADA IN WRITING 30 DAYS PRIOR TO ANY MATERIAL CHANGE IN OR CANCELLATION OF ANY POLICY OR COVERAGE SPECIFICALLY RELATED TO THE CONTRACT

NAME OF INSURER'S OFFICER OR AUTHORIZED EMPLOYEE	SIGNATURE	DATE:
		TELEPHONE NUMBER:

ISSUANCE OF THIS CERTIFIATE SHALL NOT LIMIT OR RESTRICT THE RIGHT OF THE NATIONAL RESEARCH COUNCIL CANADA TO REQUEST AT ANY TIME DUPLICATE COPIES OF SAID INSURANCE POLICIES



CS1 Obligation to provide Contract Security

- 1.1 The Contractor shall, at the Contractor's own expense, provide one or more of the forms of contract security prescribed in CS2.
- 1.2 The Contractor shall deliver to the Departmental Representative the contract security referred to in CS1.1 within 14 days after the date that the Contractor receives notice that the Contractor's tender or offer was accepted by Her Majesty.

CS2 Prescribed Types and Amounts of Contract Security

- 2.1 The Contractor shall deliver to the Departmental Representative pursuant to CS1
 - 2.1.1 a performance bond and a labour and material payment bond each in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, or
 - 2.1.2 a labour and material payment bond in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, and a security deposit in an amount that is equal to
 - 2.1.2.1 not less than 10% of the contract amount referred to in the Articles of Agreement where that amount does not exceed \$250,000, or
 - 2.1.2.2 \$25,000 plus 5% of the part of the contract amount referred to in the Articles of Agreement that exceeds \$250,000, or
 - 2.1.3 a security deposit in an amount prescribed by CS2.12 plus an additional amount that is equal to 10% of the contract amount referred to in the Articles of Agreement.
- 2.2 A performance bond and a labour and material payment bond referred to in CS2.1 shall be in a form and be issued by a bonding or surety company that is approved by Her Majesty.
- 2.3 The amount of a security deposit referred to in CS2.1.2 shall not exceed \$250,000 regardless of the contract amount referred to in the Articles of Agreement.
- 2.4 A security deposit referred to in CS2.1.2 and CS2.1.3 shall be in the form of
 - 2.4.1 a bill of exchange made payable to the Receiver General of Canada and certified by an approved financial institution or drawn by an approved financial institution on itself, or
 - 2.4.2 bonds of or unconditionally guaranteed as to principal and interest by the Government of Canada.
- 2.5 For the purposes of CS2.4
 - 2.5.1 a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order



of, the Receiver General for Canada, and

- 2.5.2 If a bill of exchange is certified by a financial institution other than a chartered bank then it must be accompanied by a letter or stamped certification confirming that the financial institution is in at least one of the categories referred to in CS2.5.3
- 2.5.3 an approved financial institution is
 - 2.5.3.1 any corporation or institution that is a member of the Canadian Payments Association,
 - 2.5.3.2 a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec to the maximum permitted by law,
 - 2.5.3.3 a credit union as defined in paragraph 137(6)(b) of the *Income Tax Act*,
 - 2.5.3.4 a corporation that accepts deposits from the public, if repayment of the deposit is guaranteed by Her Majesty in right of a province, or
 - 2.5.3.5 The Canada Post Corporation.
- 2.5.4 the bonds referred to in CS2.4.2 shall be
 - 2.5.4.1 made payable to bearer, or
 - 2.5.4.2 accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations, or
 - 2.5.4.3 registered, as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations, and
 - 2.5.4.4 provided on the basis of their market value current at the date of the contract.



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

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

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

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

4. Brief Description of Work / Brève description du travail
M12, Modernization of the Passenger Elevator , Installation No. 21147

5. a) Will the supplier require access to Controlled Goods? / Le fournisseur aura-t-il accès à des marchandises contrôlées? No / Non Yes / Oui

5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? / Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques? No / Non Yes / Oui

6. Indicate the type of access required / Indiquer le type d'accès requis

6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? / Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) / Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c) No / Non Yes / Oui

6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. / Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé. No / Non Yes / Oui

6. c) Is this a commercial courier or delivery requirement with no overnight storage? / S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit? No / Non Yes / Oui

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

Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
--	--------------------------------------	---

7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions / Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries / Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>

7. c) Level of Information / Niveau d'information

PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>		TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>



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PART A (continued) / PARTIE A (suite)

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

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

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

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

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

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET-SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
 Commentaires spéciaux : _____

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

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

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

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

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

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

PRODUCTION

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

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

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

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



Contract Number / Numéro du contrat
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PART C - (continued) / PARTIE C - (suite)

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.

Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.

Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

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

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED? No / Non Yes / Oui
 La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

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

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED? No / Non Yes / Oui
 La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

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



Government of Canada

Gouvernement du Canada

Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

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

Name (print) - Nom (en lettres moulées) Charles Cossette	Title - Titre Contract Administrator	Signature
Telephone No. - N° de téléphone 613-991-4580	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel Charles.Cossette@nrc-cnrc.gc.ca
		Date December 3, 2014

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

Name (print) - Nom (en lettres moulées) Charlotte Carrier	Title - Titre Controlled Goods and Contracts Security Coordinator	Signature
Telephone No. - N° de téléphone (613) 993-8956	Facsimile No. - N° de télécopieur (613) 990-0946	E-mail address - Adresse courriel Charlotte.Carrier@nrc-cnrc.gc.ca
		Date 9 Dec 2014

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

No / Non Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées) Marc Bédard	Title - Titre Senior Contracting Officer	Signature
Telephone No. - N° de téléphone (613) 993-2274	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel Marc.Bedard@nrc-cnrc.gc.ca
		Date 9/12/14

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

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel
		Date

Security Classification / Classification de sécurité
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