

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Contents of Division 14
 - .1 Section 14 00 00 – Additional General Conditions
 - .2 Section 14 20 06.1 – Elevators 1, 2, 3, 4
 - .3 Section 14 20 06.2 – Elevator 2s
 - .4 Section 14 20 06.3 – Elevator 5
 - .5 Section 14 90 00 – Elevator & freight elevator maintenance
- .2 Related sections
 - .1 Section 01 11 01 – Summary of work
 - .2 Section 01 14 00 - Work restrictions.
 - .3 Section 01 32 16.19 - Construction Progress Schedules - Bar (GANTT) Charts.
 - .4 Section 01 33 00 - Submittal Procedures.
 - .5 Section 01 35 29.06 - Health and Safety Requirements.
 - .6 Section 01 35 43 – Environmental Protection.
 - .7 Section 01 41 00 – Regulatory requirements
 - .8 Section 01 51 00 – Temporary utilities.
 - .9 Section 01 52 00 – Construction facilities.
 - .10 Section 01 56 00 – Temporary barriers and enclosures.
 - .11 Section 01 61 00 - Common Product Requirements.
 - .12 Section 01 73 00 – Execution.
 - .13 Section 01 74 00 – Cleaning.
 - .14 Section 01 74 19 - Construction/Demolition Waste Management and Disposal.
 - .15 Section 01 77 00 - Closeout procedures.
 - .16 Section 01 78 00 - Closeout Submittals.
 - .17 Section 01 79 00 – Demonstration and training
 - .18 Section 01 79 00.13 – Demonstration and training for building commissioning
 - .19 Section 01 91 13 - General Commissioning requirements.
 - .20 Section 01 91 13.13 – Commissioning Plan
 - .21 Section 01 91 13.16 – Commissioning Forms.
 - .22 Section 01 92 00 – Facility operation

1.2 REFERENCES

- .1 American National Standards Institute (ANSI).
 - .1 ANSI/NEMA MG 1-2003, Motors and Generators.
- .2 Canadian Standards Association (CSA International).
 - .1 ASTM A17.1-2010/CSA B44-2010, Safety Code for Elevators and Escalators.
 - .2 CAN/CSA-B651-18, Barrier-Free Design.
 - .3 CAN/CSA-B355-09
 - .4 CAN/CSA C22.10, Quebec Electrical Code
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

- .1 Material Safety Data Sheets (MSDS).
- .4 National Building Code (NBC).
 - .1 National Building Code of Canada 2015.

1.3 PERFORMANCE REQUIREMENTS

- .1 The Contractor shall consider that the specifications are performance specifications. It includes among others the performance to be achieved, constraints and criteria to be followed, to observe the spatial requirements and quality standards that must be met.
- .2 The Contractor shall take into account in its tender that the plans and specifications represent performance to be achieved, and if some visible or hidden works not shown on the plans and / or described in the specifications are necessary for the successful completion of the work, he will be required to execute them without additional cost to the Departmental Representative.
- .3 In all cases where the singular is used in the specifications, it is understood that the same applies to the plural reference when necessary to adequately complete the installation.
- .4 In all cases where the term <supply> is used, it is understood that this also means the complete installation by the Contractor.

1.4 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data: submit manufacturer's printed product literature, specifications and data sheet.
 - .1 Submit WHMIS MSDS in accordance with Section 02 81 01 - Hazardous Materials.
- .3 Shop Drawings:
 - .1 Submit shop drawings to indicate project layout, including details and the following information:
 - .1 Size and location of machine and controller.
 - .2 Not used
 - .3 Not used
 - .4 Not used
 - .5 Not used
 - .6 Not used
 - .7 Not used
 - .8 Not used
 - .9 Not used
 - .10 Not used
 - .11 Not used
 - .12 Shop drawings submitted stamp by qualified professional engineer registered in Province of Quebec.
 - .13 Include on general arrangement drawings:
 - .1 Complete project references;
 - .2 All Code requirements;
 - .3 Agreement and dimensions of equipments in machine room;

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- .4 Not used
 - .5 Not used
 - .6 Not used
 - .7 Signalling equipment, including cab and floor call buttons, position indicator, direction indicators and any other apparent devices;
 - .8 Not used
 - .9 Not used
 - .14 Provide wiring diagrams.
 - .2 The Contractor shall submit (4) copies of shop drawings (4 paper formats, as well as Autocad drawings file), for examination by Departmental Representative, within a reasonable time and in a logical sequence so as not to delay the works.
 - .3 The Contractor shall make the changes to shop drawings required by the Departmental Representative and must resubmit unless noted otherwise. Otherwise, the Contractor shall ensure that its changes are clearly identified on the new documents submitted
 - .4 Any changes to a drawing should be clearly identified with a cloud and a revision number.
 - .4 Samples:
 - .1 Submit two samples, complete with colour schemes, 150 x 150 mm in size, illustrating: floor material, car interior, car ceiling, car door, hoistway entrance door and frame finishes.
 - .5 Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.
 - .6 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .7 Instructions: submit manufacturers installation instructions.
 - .8 Manufacturers Field Services: submit copies of manufacturers field reports.
 - .9 Closeout Submittals:
 - .1 Submit the following in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Project Record Documents:
 - .1 Record actual locations of equipment, names of equipment manufacturers and suppliers, concealed conduit and boxes, concealed devices, disconnects.
 - .3 Operation and Maintenance Data:
 - .1 Include description of elevator system's method of operation and control including group supervisory control system, motor control system, door operation, signals, firefighter's service, emergency power operation, and special or non-standard features provided.
 - .2 Provide parts catalogues with complete list of equipment replacement parts with equipment description and identifying numbers.
 - .3 Legible schematic wiring diagrams covering electrical equipment installed, including changes made in final work, with symbols listed corresponding to identity or markings on both machine room and hoistway apparatus.
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- .4 Instruct Departmental Representative in maintenance of special finishes.

1.5 QUALITY ASSURANCE

- .1 Qualifications:
- .1 Installer Qualifications: company or person experienced in performing work of this section specializing in installation of work similar to that required for this project.
- .2 Health and Safety
- .1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle components in accordance with Section 01 61 00 - Common Product Requirements and in accordance with manufacturer's written instructions.
- .2 Packing, Shipping, Handling and Unloading:
- .1 Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- .3 Storage and Protection:
- .1 Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
- .4 Waste Management and Disposal:
- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan (WMP).
- .4 Separate for reuse and recycling and place in designated containers Metal and Plastic waste in accordance with Waste Management Plan (WMP).
- .5 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Refer to the plans for storage areas, outside of the elevator machine room affected by the work.

1.7 WARRANTY

- .1 For the Work of Section 14 00 00 and related, the warranty period of 12 months will begin at the partial substantial work completion of each modernized elevator group.

1.8 EXTENDED WARRANTY

- .1 For the Work of Section 14 00 00 and related, the warranty period of 12 months of the first modernized elevator groups is extended until the end of the 12 months warranty period of the last modernized elevator group to achieve a common end date of the warranty.

- .2 For the Work of Section 14 00 00 and related, the warranty period of 12 months is extended to 36 months and must cover the elements which have the following defects:
 - .1 Blistering, spalling or peeling of paint due to improper surface preparation or material application.
 - .2 Opening of joints due to improper design or use of ineffective fastening devices.
 - .3 Separation, cracking or splitting of plastic laminate due to improper application to core material, or to method of fabrication which gives rise to areas of high stress concentration or which restricts normal expansion or contraction of plastic laminate.

1.9 MAINTENANCE SERVICE

- .1 Provide full maintenance service of all elevators (1-2-3-4-5-2s) as per requirements of Section 14 90 00.
- .2 Full maintenance service includes the following periods:
 - .1 Interim period, before and during the equipment modernization. The interim period will begin one week before the start of the modernization work on the first elevator group (group 1).
 - .2 The warranty period and extended warranty periods. The extended warranty periods will end 12 months following the modernization of the last modernized elevator group.

1.10 EXECUTION TIMELINE

- .1 Plan and include all costs and work in accordance with the sequences and timeframes as specified in section 01 14 00 - Work restrictions
- .2 During the entire project, always have on site the main material for the following modernization group ie for the next three elevators.

1.11 SPECIFICATIONS OWNERSHIP

- .1 All copies of plans and specifications provided by Departmental Representative are his property. They should not be used for another job and can not be copied or revised in any manner whatsoever without written authorization.

1.12 DIMENSIONS

- .1 Supply and install all the equipments to suit the dimensions specified in the specifications and the various plans.
- .2 The *Contractor* has the responsibility to check the on site dimensions as well as the site conditions.

1.13 DOCUMENT REVIEW

- .1 The Contractor shall review the project tender documents to fully assess the scope of work to be performed and the quality of materials required.
 - .2 An on site visit by the contractor is required to asses the existing conditions and work requirements and to obtain all information or clarification for the proper execution of the work.
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- .3 If the Contractor detects any errors or omissions in the specifications, the latter shall inform the Departmental Representative. Any additional costs due to a lack that will not be identified will be defrayed by the Contractor.

1.14 ELEMENTS

- .1 Unless amendment is approved, the main elements of vertical transport equipment used in this project must be new current production genuine parts.
- .2 Control devices must come from a single manufacturer.
- .3 All control devices installed in this contract shall be of the same generation or 100% compatible with each other.
- .4 The proposed systems shall have been installed in at least three buildings of similar size and be in operation for at least two years.
- .5 The Contractor shall confirm the items when submitting shop drawings.

1.15 ACCEPTABLE MATERIALS OR PRODUCTS

- .1 Acceptable materials or products: When materials or products are prescribed by their trademark, see the Instructions to Tenderers to know how to proceed for approval of materials or replacement products. Replacement product must be approved by addendum in accordance with the Instructions to Tenderers.

1.16 ACCESS TO INFORMATION STATEMENT

- .1 Before the final acceptance, submit in accordance with Section 01 78 00 Closeout Submittals to the Departmental Representative all the information relating to programming and controller components of the project.
- .2 Provide fully non-proprietary versions of all control equipment including:
 - .1 The Contractor shall submit, 10 after the award of the contract, a letter attesting that the proposed material is fully non-proprietary.
 - .2 All required diagnostics are "on board".
 - .3 All programming and diagrams required for long-term maintenance are provided with the controller.
 - .4 The controller will not shut down or alter its functionality in any way after a pre-determined increment of time or use.
 - .5 Any elevator contractor should be allowed to purchase parts, supplies, diagrams, support, or training directly from the factory at the same cost level as the original installer. A published price list shall be supplied with the controller.
 - .6 Parts including circuit boards should be available for direct purchase from the factory in numbers and not on an one-for-one "exchange only" basis.
 - .7 Provide a written warranty from the manufacturer of the control equipment stating that software and firmware updates will be provided free of charge to the Owner for the entire useful life of the equipment.
- .3 Provide 3 copies of the final version of the controllers program on CD-ROM as well as the access codes associated to it. Also provide all the tools (programming console, access codes, cable, and operation manual etc.) to access the controller's programming internal coded modules. The elevator installer or supplier shall in no case insert locks or password restricting access to the programming or operation of equipment. If the contract is terminated, provide the Owner with a hard copy of the access codes and access tools of

devices or components requiring such codes or tools for their commissioning, programming or other purposes.

- .4 The Contractor agrees to the following: In the event of termination of maintenance service with the installer of the equipment, the Contractor and the supplier shall undertake to provide expertise on demand for equipment repair and adjustment and replacement parts within 48 hours, for a period of 15 years following the installation of equipment, with pay for labor and parts to the market price. This applies to parts having a right of property <patent> and / or not available elsewhere than at the original manufacturer <installer> equipment.
- .5 The Contractor agrees to the following: In the event of termination of business or bankruptcy of the installer of the equipment or its supplier, the latter shall provide, with compensation, all information relating to programming and components of control devices of the project.

1.17 WORK NOTIFICATION

- .1 The Contractor shall after the end of Work, report them to the RBQ (Régie du Bâtiment du Québec) within the time they prescribed. A copy must also be sent to Departmental Representative.

1.18 SUPPLIERS LIST

- .1 The Contractor shall submit with the Bid all the names of suppliers and products and proposed models for the main components, including motors, control equipment, door systems and signalling devices.

1.19 TRADEMARKS

- .1 Trademarks are not allowed on equipment apparent to the public.
- .2 Identify clearly within the controller cabinet in the control room, the name of the elevator company that has completed the installation of the equipment.

1.20 PLANS AND SPECIFICATIONS ON SITE

- .1 Throughout the construction period, keep on site, for reference by mechanics, an updated and approved by Departmental Representative copy of the plans and specifications.

1.21 COORDINATION

- .1 Coordinate the work with the Departmental Representative and other trades in accordance with the project schedule.
 - .2 Store new materials in areas designated by Departmental Representative.
 - .3 Provide all the workspaces protection to ensure the safety of workers, technicians, occupants and the public.
 - .4 Coordinate work with other trades to minimize the impact of these activities on the property. The work must minimize disruption of building activities. In some cases, the Departmental Representative may request that certain tasks be done at a specific time and at no additional cost.
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1.22 PREVENTIVE MEASURES

- .1 The Contractor shall perform and comply with the procedures described below, for all the work of this project.
 - .1 The Contractor shall perform the work using methods that minimize dust generation during construction / renovation;
 - .2 Contractor, in addition to solid wall, shall seal unused doors with adhesive tape to partition the work area;
 - .3 The Contractor shall seal the exhaust vents and air supply in the areas of construction / renovation. A strict protocol must be adopted on this subject considering the activities of the Owner involving the presence of several laboratories called clean rooms;
 - .4 When construction workers must use public areas of the building, they shall clean themselves on the work site, and be sure to remove most of the dirt and dust on their clothes and shoes.
 - .5 When the contractor circulate in the building, he is responsible for cleaning his dirt.

1.23 SAFETY MESURES

- .1 This article states the minimum standard and does not limit in any ways the responsibilities and obligations of the Contractor. In case of conflict between the security measures set out below and the established practices of the Departmental Representative, the established practices of the Departmental Representative have precedence. The Departmental Representative may at its sole discretion, impose additional standards of safety.
 - .1 The Contractor shall not use the materials, tools and equipment belonging to the Departmental Representative without the consent of the latter.
 - .2 Departmental Representative may, at its discretion and according to his instructions, suspend or terminate the work of the Contractor for reasons of security without liability to Departmental Representative or any compensation for the Contractor. The instructions and stop work shall be recorded by the Contractor and the Departmental Representative, they will agree on the date and method of resumption.
 - .3 The Contractor shall provide and install quality warning signs and temporary solid walls partition at the two (2) lower levels and the upper level delimiting the workspace when the work is done in public areas or hamper public traffic. Temporary partitions must have solid walls and be high enough to cover the space between the floor and ceiling. Access door must be closed with a padlock.
 - .4 The Contractor shall provide and install quality warning signs and temporary partitions (barricades) with a minimum height of 42 inches for the protection of public areas for work done at any other floor.
 - .5 The Contractor shall submit, for approval by the Departmental Representative, the workspaces perimeter for each elevator. It is understood that these workspaces must be relatively small in public areas or when hindering public traffic areas.
 - .6 The Contractor shall provide and install adequate protections to prevent fall of equipment, tools and other over the entire length of the elevator hoistway.
 - .7 The Contractor has the responsibility to inform the Departmental Representative of any hazardous or unsafe conditions, and in the shortest possible time.

1.24 SECURITY MESURES - HOT WORK

- .1 The Contractor must follow the procedures outlined in the building orientation guide.

1.25 SECURITY MESURES – CONFINED SPACE

- .1 The Contractor must evaluate each of the existing confined spaces on its work site depending on the nature of its interventions and as a function of his work (welding, gas, paint, etc.). The evaluation forms used must contain at least the information required in the form FEL 104. The contractor shall transmit the risk assessment forms to Departmental Representative at least 5 days before the date set for entry into these confined spaces. He should include all costs for the measures to be taken, monitored and strictly enforced in order to meet safety requirements for confined spaces.

1.26 SITE CLEANLINESS AND SAFETY

- .1 Throughout the duration of the work, protect and keep clean the machine room and equipment therein, the elevator cab and the public areas.
- .2 Prior to Commissioning and in order to obtain acceptance with and / or without reserve, public areas, the elevator hoistway and machine room shall be cleaned and closed at the satisfaction of the Departmental Ministerial.

1.27 OPENING AND ACCESS TO WORK

- .1 The Contractor is responsible for the following:
 - .1 All openings or leveling compounds necessary for the performance of this contract is to be performed by the Contractor.
 - .2 Any opening in wall or ceiling, necessary for the execution of the work is to be performed by the Contractor.
 - .3 The Contractor shall obstruct and return to the original state components wholly or partly demolished.

1.28 CONTRACTOR FAILURE

- .1 In the event of the Contractor inability to do correctly the work described in the specifications, or correct operating problems, the Departmental Representative reserves the right to perform the work by others at the expense of the Contractor.
- .2 Should any problem causing a serious delay on the original schedule, the Departmental Representative will give a written 10 days notice to the Contractor to avail the clause above.

1.29 MANUALS

- .1 Prior to the commissioning of first modernized elevators group, submit in accordance with Section 01 78 00 - Closeout Submittals the operation and maintenance manuals.
 - .2 Provide a minimum of three (3) copies of the manuals bound in binders with dividers and tables of contents as well as a Portable Document Format (PDF) version on CD-ROM and USB key.
 - .3 Include in these manuals, a technical description of all system components and approved shop drawings.
 - .4 Include a complete list of spare parts to drawing and identification number.
 - .5 Provide the parts list including their average useful life and addresses of suppliers.
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- .6 Include a detailed description of special systems such as fire recall and emergency power.
- .7 Not Used
- .8 Include in the maintenance manual a schedule of routine work required as part of preventive maintenance.

1.30 ELECTRIC DIAGRAMS

- .1 Prior to commissioning, submit in accordance with Section 01 78 00 - Closeout Submittals copies of the as-built wiring and schematic diagrams.
- .2 Provide a minimum of three (3) printed copies of the diagrams as well as Portable Document Format (PDF) and CAO (in AutoCAD format) version on CD-ROM.
- .3 Display plasticized copies of the electrical diagrams, approved by an engineer, in the machine room.

1.31 TECHNICAL FORMATION

- .1 Prior to commissioning, organize with the Departmental Representative training sessions covering the equipment operation.
- .2 These training sessions should cover the operation of the above systems:
 - .1 Not Used
 - .2 Not Used
 - .3 Not Used
 - .4 Emergency Recall
 - .5 Emergency power
 - .6 Various switches and other.

1.32 TEST DATA FORMS

- .1 Prior to commissioning, submit in accordance with Section 01 91 13.16– Commissioning Forms, the test data forms.
- .2 Perform all tests required by Section 8 of the ASTM A17.1-2010/CSA B44-2010 Code and or any other test requested by the competent authorities.
- .3 Provide the Departmental Representative the test certificates issued by the competent authorities.

1.33 ASSISTANCE FOR INSPECTIONS

- .1 During the supervision and coordination of the work by the Departmental Representative throughout the project, provide good collaboration to ensure satisfactory execution.
 - .2 An inspection of the elevator will be made by the Departmental Representative to verify compliance with the specifications requirements.
 - .3 Provide a team of trained mechanics to help the Departmental Representative in the course of these inspections.
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- .4 Arrange to perform the required emergency manoeuvre and emergency power operation tests in the course of these inspections in collaboration with the project electrician.
- .5 Provide the Departmental Representative a complete set of keys for the tests to be done during his inspection.
- .6 In the event that the said works are not corrected by the date agreed in writing by the Contractor, all costs related to a second inspection will be at the Contractor expense.

1.34 ACCEPTANCE PROCESS

- .1 Prior to Commissioning and in order to obtain acceptance with and / or without reserve, public areas, the elevator hoistway and machine room shall be cleaned and closed at the satisfaction of the Departmental Ministerial.
- .2 Inform in writing the Departmental Representative, one (1) week in advance, of the proposed date for the elevator inspection.
- .3 Prior to the inspection of the Departmental Representative, provide the test data forms.
- .4 Plan a second execution of the tests along with the Departmental Representative during the inspection of the elevator.
- .5 The Contractor shall perform, at its expense, all testing and provide the necessary support team for assistance during inspections of the Departmental Representative.
- .6 An inspection of the elevator will be made by the Departmental Representative to verify compliance with the specifications requirements.
- .7 Following the issuance of the list of deficiencies, the Contractor will have a maximum of 30 days to correct the deficiencies.
- .8 The final acceptance will be done after the correction of all deficiencies issued by the Departmental Representative and before the warranty period of the equipment.

1.35 BREAK-IN PERIOD

- .1 Plan a 5 days break-in period before the shutdown for modernization of another elevator. This period will be used to identify anomalies and fix problems that may arise. All elevators in the group shall be operational during the break-in period.

1.36 BARRIER-FREE

- .1 Provide all requirements for Barrier-Free operation listed in Appendix E of the CAN/CSA-B44-07 Code and CAN/CSA B651-12 standard.

Part 2 Products**2.1 NOT USED**

- .1 Not Used.
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Part 3 Execution**3.1 NOT USED**

.1 Not Used.

END OF SECTION