

Otis Elevator Company

16200 NW 59th Avenue, Suite 109
Miami Lakes, FL 33014
Direct (305) 816-5776

April 10, 2016

SM Think Clinton Hotel
825 Washington Avenue
Miami Beach, FL 33139

Project: Clinton Hotel

Dear Mr. Vardi,

We are pleased to provide you with our proposal to furnish and install:

One (1) 2,500lb Otis Gen2 Elevator System at 150fpm

As described in this proposal, for the sum of:

One Hundred Sixty Six and 00/100 Dollars..... \$166,000

Please take note of the following sections of the proposal:

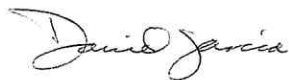
1. **Scope of Work**
2. **Job Specific Clarifications**
3. **Voluntary Alternates**
4. **General Clarifications**
5. **Terms and Conditions**
6. **Preparatory Work by Others**

This quotation is valid for thirty (30) days from the date of submission. Otis predicates the quote upon timely furnishing of a completed hoistway for uninterrupted use. **This quotation is based on plans dated 2016 and stamped "RECEIVED" April 10, 2016**

We appreciate having the opportunity to provide you with our proposal on this project and look forward to working with you and your project team.

Please call me at my mobile (954) 279-0594 if you have any questions.

Sincerely,



Daniel Garcia
New Equipment Sales
Daniel.Garcia3@otis.com
Office: (305) 816-5776
Cell: (954) 279 -0593

1.
SCOPE OF WORK

Passenger Elevator

Designation & Model	Otis Gen2 Elevator System
Capacity and Speed	2500 lbs Passenger @ 150fpm
Stops, Floors & Rise	4 Stops - 2 Front openings with 36 ft of rise
Clear Car Inside Dimensions	7 ft 2.75 in X 8 ft 2.75 in
Clear Hoistway	8 ft 4 in 0 wide X 5 ft 9 in >>> Can be accomodated in 6'9 deep hoistway with minor modifications
Clear Overhead & Pit Depth	Overhead - 12 ft 7 in 0 Pit - 4 ft 0 in in 0 (or 5 ft 0 in)
Door Type / Size	3ft x 6 in X 7ft 0 in
Control Space	Adjacent at lowest standing
Operation	Simplex
Power Supply	208 bolts, 3 phase AC, 60 Hertz
Cab Enclosure	<p><u>Cab Walls:</u> Otis Painted Steel Cab shell</p> <p><u>Ceiling:</u> Flat canopy with 4 LED down lights</p> <p><u>Front, return, header and cab door:</u> Brushed Stainless Steel Full #4</p> <p><u>Handrails:</u> Rectangular with stainless steel finish - Side Walls</p> <p><u>Cab Height:</u> 7'9" under canopy</p> <p><u>Sills:</u> Extruded Aluminum</p> <p><u>Pads:</u> Not included.</p>
Cab Flooring	Furnished and installed by others - 1.25 inch recess
Hoistway Entrance Finish(s)	<p><u>Type:</u> Side-Opening</p> <p><u>Size:</u> 3'-6" wide x 7'0" high.</p> <p><u>Finish:</u> Baked Enamel Paint</p> <p><u>Sills:</u> Aluminum</p>
Car Fixtures	<p><u>Type:</u> Otis Brushed stailless steel standard car operating panel including round buttons with LED illuminating halos</p> <p><u>Qty of Car Stations:</u> One (1) per Cab</p> <p><u>Finish</u> Stainless Steel Full #4</p> <ul style="list-style-type: none"> -Otis ADA hands free phone -Digital position indicator -In-car directional lantern with gong and floor passing signals -Certificate frame
Hall Fixtures	<p><u>Type:</u> Otis Brushed stailless steel fixutres mounted in the entrance including round buttons with blue illuminating LED halos</p> <p><u>Qty Hall Risers:</u> One (1)</p> <p><u>Hall Position:</u></p> <p><u>Indicator (s):</u> One (1) at Lobby Level</p> <p><u>Hall Lanterns:</u> (none)</p> <ul style="list-style-type: none"> -Access at bottom landing with zoning -Access at top landing with zoning
Constant Features	<p>Firefighters' Service Phase I and Phase II</p> <p>Handicapped and braille markings</p> <p>Optiguard door reversal device</p> <p>Emergency car lighting</p>
Additional Features	REM - Remote elevator Monitoring
Code Compliance	All applicable local, state and national codes ANSI A 17.1 Florida local code and ADA Seismic Zone 0
Maintenance	12 months after acceptance of elevator by owner including emergency callback service during normal working hours

2. **Project Specification Clarifications**

Due to variations in manufacturer standards, Otis is submitting the following clarifications:

2.1. **Elevator quoted is 100% machine room less.** Significant savings can be achieved due to:

2.1.1. A machine room is not required. A controller room is not required either.


NOTE: The elevator machine room shown on the plans will not be utilized for the elevator, it can be eliminated or used for other purposes.

2.1.2. Significant savings can be achieved by not building these rooms.

2.1.3. **Electrical disconnects will be by Otis** (electrical subcontractor to run the 3-phase power as well as the single-phase up to the top landing, where the controller will be located).

2.2. We have included the following features which are regarded as "upgrades" in the elevator industry:

2.2.1. Regenerative drives on all traction elevators

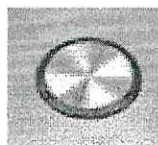


ReGen®

Regenerative technology

Our ReGen Drive, now standard on the Gen2 System, puts electricity back into your building's grid by capturing normally wasted energy. Thanks to low harmonic distortion, this recycled energy provides clean power minimizing impact to your building's electrical system. All this helps make the Gen2 system up to 75% more efficient than conventional systems. And from an energy consumption standpoint, the Gen2 system uses up to 40% less energy than non-regenerative machine-roomless systems.

2.2.2. Brushed Stainless Steel Buttons with LED illumination



Flush Mount

- LED illuminated halo available in blue or white
- Satin stainless steel finish

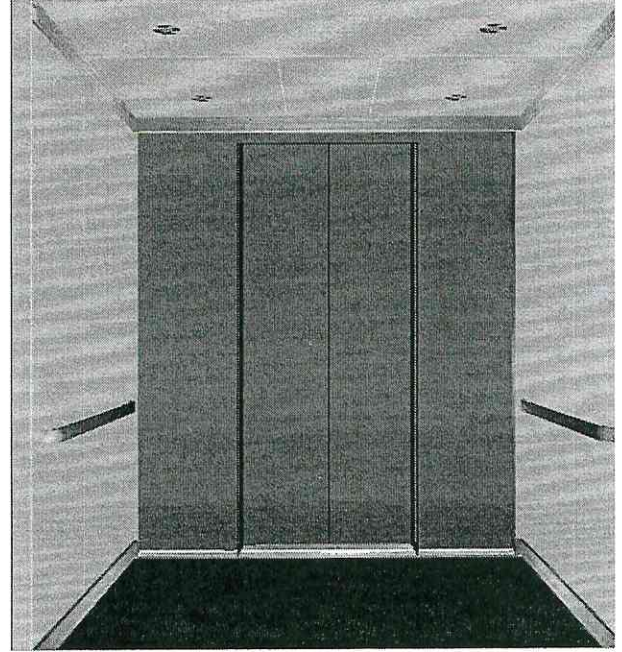
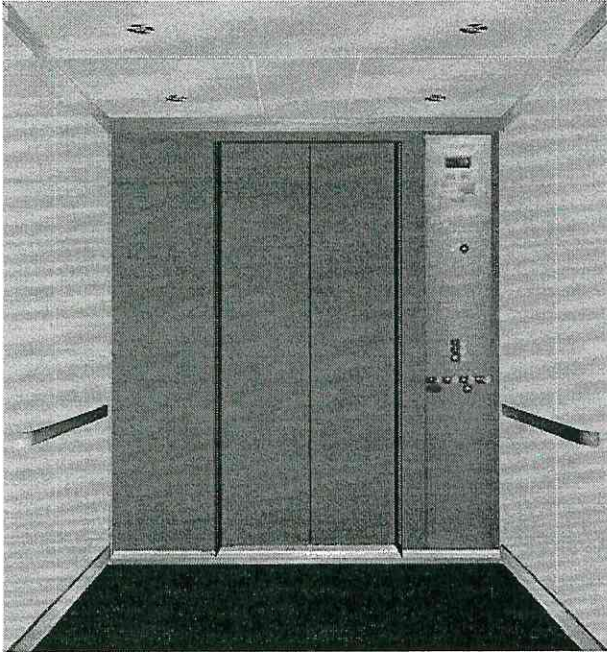
Cab Interior Rendering:

Steel Shell Passenger Cab

Front Only, Side-Opening Doors, Flat Metal Ceiling

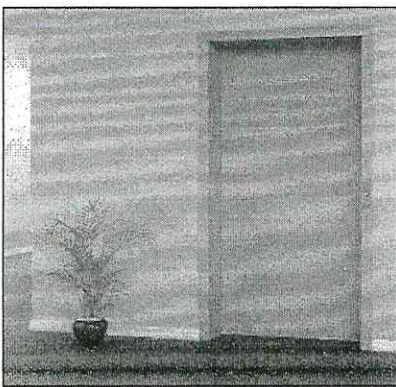
Panel Arrangements

Vertical Painted Steel Shell panels- 5 back and 3 side with Brushed Steel Trim
Base pieces, located at top and bottom of the cab, are constant features.
Base has a Brushed Steel Finish.



Entrance / Door Rendering:

Baked Enamel Door Frame and Entrance Door



Real White
EW-0



Flax
EN-1



Twilight
EW-2



Safari*
EN-2



Mushroom*
EN-4



Charcoal*
EW-4

Door and Entrance shown in Safari

* Additional lead time may apply

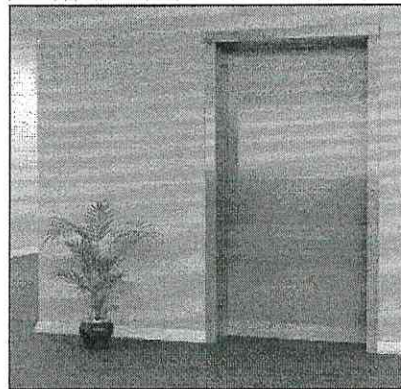
2.3. Our quote is based upon the timely furnishing of a completed hoistway for uninterrupted use. In addition, if the project is delayed past 12/31/14 you will be responsible for any labor and material increases that have occurred.

2.4 Pit ladders are by other trades.

- 2.5. A safety/hoisting beam is required at the top of the hoistway and is by other trades. It should be located exactly as per the elevator shop drawings.
- 2.6. Conduit from the hoistway to the remote fire control room as well as pulling of the wiring for the remote lobby panel, shall be by other trades.(If applicable)
- 2.7. **Entrance rough openings should be as per Otis's shop drawings.**
- 2.8. Our bid is based on manufacturing lead-time of **12 - 14 weeks** after approvals.
- 2.9. This proposal is provided with the understanding that materials will be ordered with sufficient lead time (as outlined in our approvals package) to allow delivery and installation prior to **12/31/2014**. If Otis is unable to order materials in a timely manner due to delays on behalf of the owner, general contractor and/or agent thereof, or if delivery is requested after **12/31/2014**, the owner and/or general contractor will be responsible for all cost increases incurred by Otis. An extra charge will be assessed for any double handling or re-transportation of elevator material required by the general contractor/owner or agent thereof.
- 2.10. When requested, Otis will provide input regarding the vertical transportation installation schedule, and Otis will contract for a specific, and mutually agreeable, installation schedule.
- 2.11. General contractor to provide and install hoistway entrance protection as required by the Occupational Safety and Health Administration (OSHA) (1926.502(j), and as noted in the "Work By Others" section prior to Otis is scheduled to staff the project.

3. **Alternates**

- 3.1. **ALTERNATE # 1 – Stainless Steel Entrances & Doors** - You may **ADD \$400 PER Entrance** to the base bid contract price to: Furnish and install Brushed Stainless Steel Entrances and Doors in lieu of Baked Enamel Entrances and Doors in base bid.



Door and Entrance shown in Stainless Steel



Satin Stainless Steel*



Gold Satin

- 3.2. **ALTERNATE # 2 – CAB INTERIOR UPGRADES** – Many different cab interior upgrades are available, please contact me to discuss.

4. General Clarifications

- 4.1. Miami-Dade County requires that sump pits be at least 18" x 18" x 24" deep.
- 4.2. As per the elevator code, a sump pump should be provided for the elevator pit. The sump pump/drain shall have the capacity to remove a minimum of 3,000 gal/hr per elevator. Miami-Dade County requires that it discharge to an oil/water separator, or that it be of the "intelligent (detects oil) type". The pump or drain cannot discharge directly to the sewer or sanitary.
- 4.3. Miami-Dade County elevator officials have brought to our attention that they will start to enforce the following Florida Building Code 2007 requirement (the 2010 code has a similar one) regarding hoistway vent openings which requires that the elevator hoistway vents be equipped with motorized dampers. This makes sense as this keeps humid air outside of the buildings which reduces energy being consumed by AC systems. This damper should open when the overhead smoke detector is activated.
13.409.AB.3.1 Stair and shaft vents. Stair and elevator shaft vents shall be equipped with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to open as required by fire and smoke detection systems.
- 4.4. The installation of the elevator equipment may require the use of specialized tools that Otis may rent. The rental cost of these specialized tools is included in this proposal for a period of **One (1)** month per elevator, the period of time we will need to install each elevator. If there are delays to the elevator installation schedule beyond Otis' control, and if those delays necessitate additional rental tool costs, Otis will be reimbursed for all additional rental fees and any associated labor.
- 4.5. Contractor will provide one (1) dedicated outside telephone line to the elevator machine room as described in the "Work by Others" section.
- 4.6. Fully executed change orders must be received prior to Otis performing any additional work outside the scope of the base contract. Otis will not accept oral or written "directives to proceed" without a fully executed and agreed-upon change order.
- 4.7. Any fees required via participation in a third party billing consolidator will be passed on to Contractor via change order and will be handled in the same manner as all other change orders per our clarifications.
- 4.8. Change orders will be stated price (lump sum). In the event a stated price cannot be calculated, hourly rates for Time and Material (T/M) are below.

	<u>Per Man</u>
Regular time hourly rate:	<u>\$150</u>
Overtime hourly rate:	<u>\$250</u>

- 4.9. Contractor will communicate to Otis supervision who the signatories and/or titles, roles and positions are which are authorized to sign time tickets on-site that will be used as support documentation for T/M change orders. Work cannot commence or continue until a designated signatory signs the document.
- 4.10. Contractor will be responsible for providing suitable and secure on-site storage as described in the "Work By Others" section of this proposal.
- 4.11. If contractor is not ready to accept delivery of the material on the requested/notified delivery date, contractor will give us sufficient notice of a local point where contractor will accept delivery, and be responsible for all monthly storage fees. An extra charge will be assessed for any double handling, re-transportation or inefficiencies created by non-adjacent storage conditions.
- 4.12. We require suitable tractor trailer access to the building for unloading of material. In addition, we need roll-able access from unloading point to storage and storage to hoistway area.
- 4.13. If Otis is requested to operate the elevator for others, or perform labor outside of the scope of this work, that work will be performed in accordance with our normal hourly labor rates.
- 4.14. Contractor agrees to pursue and schedule the work by other trades in a timely manner so as to not interrupt our work. Should our crew(s) have to de-mobilize from the job due to delays in work by others not in our contract, we shall be entitled to a re-mobilization charge of twenty five hundred (\$2,500) dollars. We will also extend the stated schedule to the extent that we are delayed.
- 4.15. Should any elevator be required for temporary use before final acceptance of the elevator and

substantial completion, others will provide without expense to Otis Elevator Company, if required, temporary car enclosures, requisite guards or other protection for elevator hoistway openings, mainline switch with wiring, necessary power, signaling devices, lights in car and elevator operators together with any other special labor or equipment needed to permit this temporary usage. Otis Elevator Company will be reimbursed twenty five hundred (\$2,500.00) dollars to cover expenses associated with the additional inspection fee and the required clean-up. Otis will also be reimbursed at the rate of fifty (\$50.00) per day for the normal elevator maintenance. Neither the twenty five hundred dollar (\$2,500.00) "clean-up and additional inspection" fee or the fifty dollar (\$50.00) per day charge will cover elevator equipment damage that may occur during the temporary service period. Otis' temporary acceptance form will be executed before any elevator is placed in temporary use, and the cost of equipment rehabilitation will be paid for by contractor.

- 4.16. When an elevator is used for temporary service, the completion date may, as a result of the temporary service, be extended by Otis Elevator Company. Otis Elevator Company shall provide notice of the extension at the time the elevator is made available for the temporary service.
- 4.17. This proposal includes a one-time final inspection fee. Should re-inspection be required because of work that is not the responsibility of Otis, contractor will be responsible for the cost of re-inspection and remobilization for Otis personnel. A minimum change order of twenty five hundred (\$2,500) dollars will be executed prior to rescheduling a follow-up inspection.
- 4.18. The following close-out documents will be provided: our standard owner's information manual, our standard final layout/installation drawings, and our standard warranty letter. Unless otherwise specified, 2 copies of each will be provided. Additional copies are available at \$100 per set.

5. **Terms and Conditions**

- 5.1. Non-Otis contract language: In the event contractor does not accept Otis Standard Commercial Terms and the Otis Acknowledgement Letter, the contract price may be altered.
- 5.2. It is agreed that neither party being liable to the other for any loss, damage or delay due to any cause beyond either party's reasonable control, including but not limited to, acts of government, strikes, lockouts, other labor disputes, fire, explosion, theft, water damage, flood, earthquake, riot, civil commotion, war, malicious mischief or act of God. Under no conditions, shall either party be liable for special, indirect, liquidated, or consequential damages in contract, tort, including negligence, warranty or otherwise, notwithstanding any indemnity provisions to the contrary. Notwithstanding any provision in any contract document to the contrary, our acceptance is conditioned on being allowed additional time for the performance of the Work due to delays beyond our reasonable control.
- 5.3. It is agreed that Otis will not be responsible for any Liquidated Damages. Should the contract documents require provisions for Liquidated Damages, our bid is contingent upon review of the schedule to assure Otis can achieve the desired date with our standard lead times. Security for elevator material delivered to the jobsite is the responsibility of the Contractor. The Contractor is responsible for all costs to replace any damaged, stolen or missing elevator equipment. Otis will not be responsible for deductibles on Builder's Risk insurance policies. Otis will provide a change order, police report, and affidavits as needed to substantiate the claim. Otis will not procure replacement equipment until a signed change order is received.
- 5.4. Otis will provide surety bond(s) in the form provided by Otis' Surety at no cost. This is in lieu of participation in any type of surety wrap-up or Subguard program.
- 5.5. If payment and performance bonds are requested of us, please add \$10.00 per \$1000 of resulting contract amount.
- 5.6. OTIS agrees to provide evidence of insurance coverage but cannot name others as additional insured or waive our rights of subrogation. All insurance coverage afforded to you or others shall terminate upon final acceptance of the work. If "Owners and Contractors Protective Insurance" is required in addition to our standard Certificate of insurance add (\$X.00 per \$1000).
- 5.7. This proposal does not include any provision for an "Owner Controlled Insurance Program" (OCIP/CCIP/Wrap Up). That option is not available, and no deduct is available for Otis' participation.

5.8. Our proposal is based the following payment terms:

5.8.1. Our quoted price is based on the "Initial Payment" equaling forty percent (40%) of contract award. This amount, plus a fully executed subcontract must be received prior to releasing equipment for manufacturing.

5.8.2. Otis will mobilize after the "Material Delivery Payment" is received. See "Schedule of Values" below.

5.8.3. Monthly "Progress Payments" will be calculated as the proportionate value of work performed relative to the remaining balance due on this sub-contract (i.e. balance due after the "Material Delivery Payment" is received). This includes any materials stored on or offsite. Also, contractor agrees to make progress payments to Otis for any work performed prior to final execution of the contract and/or the submission of any required documents other than those required for payment applications.

5.8.4. Final payment (retainage) will be due thirty (30) days after final acceptance of the elevator installation, otherwise all warranties and New Installation Service (NIS) will be suspended.

5.8.5. Otis must be paid ninety-five percent (95%) of the final contract price prior to scheduling the state inspection and turnover of the elevator equipment.

5.8.6. All change orders must be executed and paid prior to scheduling final inspection.

5.8.7. Otis does not accept credit cards as a form of payment.

5.8.8. Otis will not agree to any language referencing or implying "pay when paid". This contract is between Otis Elevator and referenced Contractor. The attached payment schedule ("Schedule of Values") is not contingent upon Contractor's ability to be paid by others or any other factor or event not described above.

5.8.9.

Schedule of Values:

Description	Percent of Total Contract Value / Billing Cycle
Design, Engineering, Material procurement, Superintendent's initial site visit, and Layouts	40% Billed upon award. Due in 30 days or prior to release of factory orders whichever occurs first.
Factory Materials	40% Billed the month before shipment occurs. Due the month material is delivered. Installation will not commence until the material is paid for.
Installation Labor	20% Billed each month as work progresses. General milestones for reference purposes. Additional invoices may occur between these milestones.

5.9 Our proposal includes our Remote Elevator Monitoring (REM[®]) feature. This feature will be installed during the original installation for the duration of the warranty/maintenance period. Upon expiration of this service period, if the owner elects not to continue maintenance with Otis, it is understood that this REM unit will be removed by Otis from the jobsite and remain in our possession.

5.10 All software supplied with the elevator is licensed to you or your successors but only for use with, and for operation of this elevator.

5.11 Otis will not supply information such as internal Otis manuals, manufacturing drawings or source code. Any counters, meters, tools, remote monitoring devices, communication devices, or other such equipment that we may use or install to deliver service under this proposal and any resulting contract remains our property, solely for the use of our employees. Such equipment is not considered as part of the elevator. If the contract or subsequent maintenance service is terminated for any reason, we will be given access to the premises to remove such equipment, including the resident software, at our expense.

5.12 In the event the transactions contemplated hereunder are restricted by U.S. Government or other applicable laws and regulations, including but not limited to those designating certain parties as "denied", "restricted" or similarly ineligible to do business with U.S. entities, this agreement will be deemed void and Customer shall pay Otis all sums owed for the goods and services that may have been provided up to such time according to the rates contained in this agreement.

5.13 Otis equipment installations comply with all applicable local, state and national elevator codes. Compliance with all other building code requirements is solely the responsibility of the contractor.

5.14 Warranty: Twelve (12) months after acceptance of elevator. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship. The guarantee period shall not extend longer than one (1) year from the date of completion or acceptance thereof by beneficial use, whichever is earlier, of each elevator. The guarantee excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. This express warranty is in lieu of all other warranties, expressed or implied, including any warranty or merchantability or fitness for a particular purpose.

6. Preparatory Work By Others

The following items must be performed or provided at no cost to Otis Elevator Company ("Otis") by the Owner or General Contractor or their agents in accordance with governing codes. The price and installation schedule of Otis is based on these job-site conditions existing at the beginning and during the installation of the elevator equipment. Failure to provide the items specified in this list will result in additional work or installation delays performed by Otis Elevator beyond the scope of our contract and a change order will be submitted for materials and/or labor expended. Please refer to our Installation Handbook for details and dimensions for the following items.

All work must be performed per the applicable national and or local codes.

6.1. General Prep/Work

6.1.1. Provide on-site storage area for elevator equipment as follows: dry and enclosed, provides roll-able access to the elevator hoistway at the ground level, located within 100 feet (30.5 meters) of the hoistway and is larger than 25 x 20 feet (7620 mm X 6096 mm) per elevator. Any warranties provided by Otis for elevator equipment are null and void if equipment is stored in a manner other than a dry enclosed building structure.

6.1.2. Provide sufficient on-site refuse containers for the proper disposal of elevator packaging material. Should sufficient refuse containers not be provided, disposal of packaging material shall become the responsibility of the owner. Otis will maintain its work area clean of all debris or trash that results from its work and will practice good housekeeping. Participation (labor or monies) in composite clean-up crews is not included.

6.1.3. Provide any cutouts to accommodate elevator equipment (conduit, troughing, venting, and hall fixtures), along with the fire-safing/patching/painting of walls, floors, or partitions together with finish painting of entrance doors and frames, if required.

6.1.4. Jobsite meetings: Otis to attend periodic (daily, weekly or otherwise) jobsite meetings only when previously notified that elevator issues will be discussed. Payment of penalty fees due to non attendance is not included.

6.1.5. Protection from Falls:

As required by the Occupational Safety and Health Administration (**OSHA 1926.502 B**) (1-3) a freestanding removable barricade at each hoistway opening at each floor. Barricades shall be 42" (1067mm) high, with mid-rail and kick board, and withstand 200 lbs. of vertical and horizontal pressure.

6.1.6. Protection from Falling Objects:

As required by the Occupational Safety and Health Administration (**OSHA 1926.502(j)**) hoistway protection from falling debris and other trades materials by either:

- 1.) Full entrance screening/mesh in front of all elevator entrances
- 2.) Secured/controlled access to all elevator lobbies (lock and key) with posted Notice "only elevator personnel beyond this protection."

Notes:

- The previous two requirements (Protection from Falls and Protection from Falling Objects) can be integrated systems.
- Hoistway barricades and screening shall be constructed, maintained and removed by others.

6.2. Hoistway & Pit Prep/Work

6.2.1. Provide and install a Steel, I-beam shaped safety beam with a maximum flange width of 8 11/16" (220mm), from side wall to side wall at the top of the hoistway, capable of withstanding a minimum net live load of 7500 lb (3402 kg) per elevator. Reference Otis Layout for location. A 4" minimum clearance is required from top of beam to top of hoistway.

6.2.2. If your jobsite voltage is > 480 Volts and your controller is to be located in the front wall, an additional steel I-beam needs to be provided and installed. It is to be located per the Otis layout & sized the same as the safety beam.

6.2.3. Provide a clear plumb hoistway with variations from the size shown on the Otis layout not to exceed -0"/+1" (25mm) and not less than the clear dimensions shown on the Otis layout

6.2.4. Provide adequate rail bracket supports, bracket spacing as required by governing code, from pit floor to top of hoistway to comply with the rail reaction forces detailed on the Otis Contract Layout. Provide adequate support for the top rail brackets at locations above the top landing as specified on the Otis Layout. Provide separator beams where required. Unless approved by Otis, rail-bracket attachment supports must be exposed and flush with the clear hoistway line.

If the floor-to-floor height exceeds the maximum bracket spacing allowed by the elevator code, Otis requires some form of Steel support to properly attach our guide rail brackets. The maximum allowed bracket spacing is indicated in the rail force and bracket detail table on the Otis layout. Any rail bracket mounting surfaces that are not in line with the finished hoistway dimension (i.e. the clear hoistway line) may need to be extended to meet the required distance. Otis agrees to provide guidance on this matter at the appropriate time.

If rail bracket embedded plates or inserts are provided by Otis they shall be installed by others in accordance with Otis documentation and instructions.

6.2.5. If vertical tube Steel is utilized as rail support on car rail side, opposite cwt., (2) vertical tubes spaced at 20.4" (518mm) on center are required for car rail brackets with "A" dimension ≥ 5.76 " (146mm).

6.2.6. Provide adequate support at all fastening points of each entrance. Provide plumb vertical surfaces for entrances and sill supports, one above the other, and square with the hoistway. Finish floor and grout, if required, between doorframes to sill line. A horizontal support is to be provided 1 foot (305mm) above the clear opening at the top landing to support the doorframe assembly. If floor heights exceed 12'-0" (3657mm), a horizontal support is to be provided 1'-0" (305mm) above the clear opening.

6.2.7. Prior to the start of installation, provide a dry, properly framed, enclosed and vented hoistway in accordance with all applicable codes.

6.2.8. Provide a pit floor designed to sustain vertical forces (based on safety impact) on car and counterweight rails and impact loads on car and counterweight buffers as shown on the Otis layout. The pit must be dry and clean. The elevator pit must have a floor drain or sump pump to prevent the accumulation of water. Location to be coordinated with Otis to avoid all elevator components and access areas. In areas requiring fire fighters emergency operation (FEO) a sump pump/drain shall be provided that shall have the capacity to remove a minimum of 11.4 m³/h (3,000 gal/h) per

elevator (2.2.2.5, ASME A17.1-2007/CSA B44-07). Otis recommends that the owner verify the drain or sump pump system is in compliance with all applicable codes and laws.

6.2.9. The front entrance wall at the main landing and top landing, is not to be constructed until after all elevator equipment is installed in the hoistway (the entire front wall – CLEAR HOISTWAY WIDTH – must be open for installation). Remaining front entrance walls are not to be constructed until after door frames and sills are in place.

The rough openings, per sizes shown on the Otis layout, are required. Prior to the completion and turnover of the elevator(s), all entrance walls must be installed and rough openings filled in complete to maintain fire rated hoistway requirements.

6.2.10. Provide and install a fixed vertical iron ladder in each pit as required by governing code and located per Otis layout or as coordinated with Otis personnel. Ladder width and pit wall pocket requirements are shown in the pit plan view on the Otis layout.

6.2.11. Install permanent light fixture in each elevator pit with illumination of not less than 100 lx (10 fc) as measured at the pit floor. The light bulb(s) shall be externally guarded to prevent contact and accidental breakage. The light switch shall be so located as to be accessible from the pit ladder.

6.2.12. Glass used in hoistway construction must block 98% or more of incident full-spectrum ultraviolet radiation for the full height of the hoistway.

6.3. Machine Room-less (MRL) Machine Space Prep/Work

6.3.1. Maintain the temperature at the top of the hoistway (machine space) between 32° F (0° C) and 104° F (40° C). This space also includes the car controller which is mounted at the top landing. Relative humidity shall not to exceed 95% non-condensing. Provide ventilation to suit Otis heat release amounts as shown in Otis Confirmation of Power Supply form. Local codes may require tighter temperature ranges and higher ventilation levels. Please check with your local code authority for the exact requirements in your area. If your machinery space temperature exceeds this requirement, contact your local Otis sales representative for assistance.

6.3.2. Install a permanent light fixture at the top of the hoistway (machine space) of not less than 200-lux (19 fc) as measured at the level of the standing surface on the car when the elevator is at the top landing. Light switch is to be located in the hoistway per the Otis layout.

6.3.3. Install a permanent light fixture at the top landing entrance (control space), in the hall, of not less than 200-lux (19 fc) as measured at the floor level. Light switch is to be located close to the elevator entrance.

6.4. Control Room/Space and Machine Space Prep/Work

6.4.1. Provide a suitable control room/space(s) with access and ventilation in accordance with all applicable codes and regulations. The control room/space(s) shall be maintained at a temperature between 32°F (0°C) and 104°F (40°C) to be measured 6 feet (1830 mm) above the floor and 1 foot (305 mm) out from the front center of the car controller(s). Relative humidity is not to exceed 95% non-condensing. Provide ventilation to suit Otis heat release amounts as shown on the Otis Confirmation of Power Supply form. Local codes may require tighter temperature ranges and higher ventilation levels, please check with your local code authority for the exact requirements in your area. If your control room/space(s) temperatures exceed these requirements, contact your local Otis sales representative for assistance.

6.4.2. Provide illumination of control room/space(s) of not less than 200 LUX (19 FC) as measured at floor level. Light switch is to be located within 18" (157 mm) to the lock-jamb side of the access door to the control room/space(s).

- 6.4.3. Install a permanent light fixture at the top of the hoistway (machine space) of not less than 200 LUX (19 FC) as measured at the level of the standing surface on the car when the elevator is at the top landing. Light switch is to be located in the hoistway per the Otis layout.
- 6.4.4. Provide control room/space(s) with self-closing and self-locking doors with a group 2 locking device. In addition, ensure that all air gaps around the doors are sealed (i.e. threshold, weather stripping, etc.)
- 6.4.5. Maintain the temperature at the top of the hoistway (machine space) between 32° F (0° C) and 113° F (45° C). Relative humidity not to exceed 95% non-condensing. Provide ventilation to suit Otis heat release amounts as shown on the Otis Confirmation of Power Supply form. If your machine space temperatures exceed these requirements, contact your local Otis sales representative for assistance.
- 6.4.6. Provide an "ABC" fire extinguisher, minimum 10 lbs in control room.
- 6.4.7. If controller room is located remotely from the elevator hoistway, provide two (2) 4" conduits per elevator, as well as any cutting, including cutouts, as well as fire safing and patching to accommodate such.

6.5. Fire Prevention Prep/Work

- 6.5.1. Provide hoistway walls designed and constructed in accordance with the required fire rating (including those places where elevator fixture boxes, rail bracket fastenings, and any other penetration into the hoistway walls).
- 6.5.2. In the United States provide smoke detectors, located as required, with wiring from the sensing devices to the controller(s) designated by Otis.
 - 6.5.2.1. For each group of elevators, provide a normally closed contact representing the smoke detector at the designated return landing.
 - 6.5.2.2. For each group of elevators, provide a normally closed contact representing all smoke detectors located in lobbies, hoistways, or control room/space(s), but not the smoke detector at the designated return landing (see above) or the smoke detectors as described in the two items below:
 - 6.5.2.2.1. If a smoke detector is located in the hoistway at or below the lower of the two recall landings, it shall be wired to activate the same normally closed contact as the smoke detector located in the lobby at the lower of the two recall landings.
 - 6.5.2.3. If the control room/space(s) are located at the designated return landing, the smoke detectors located therein shall be wired to activate the same normally closed contact as the smoke detector at the designated landing. Requirements for intermittently illuminating the fire hat visual signal in the car operating panel, either of the following two apply:
 - 6.5.2.3.1. i. For a single unit or for a group of elevators having one common control room/space(s) and one common hoistway, provide one additional normally closed contact representing the control room/space(s) and hoistway smoke detectors.
 - 6.5.2.3.2. ii. If the group contains more than one hoistway and hoistway smoke detectors are installed, or if the group has more than one control room/space(s), provide one normally closed contact for each elevator. The contact is to represent the smoke detector in the control room/space(s) for that particular elevator, and any smoke detectors in the hoistway containing that particular elevator.
- 6.5.3. Provide code compliant sprinkler system, as required, in the hoistway, pit and machine room. If sprinklers are installed in the hoistway(s), control room/space(s), or machine space(s), a means to automatically disconnect the main line power supply of the affected elevator prior to the application of water is required (unless prohibited by local code). In addition, when the Automatic Recovery Operation (ARO) is specified, the means provided to automatically disconnect power to the elevator shall be equipped with an additional auxiliary contact that is positively opened when power is removed from the elevator system. This automatically controlled mainline disconnect must be provided with all associated wiring and conduit to the controller.
- 6.5.4. Provide control room/space(s) and door to code compliant fire-resistive construction.
- 6.5.5. Provide an "ABC" fire extinguisher, minimum 10 lbs for machine space.

6.6. Electrical Requirements

- 6.6.1. If a (3) phase arrangement is to be ordered, prior to the start of installation provide a permanent three (3) phase electrical-feeder system with a separate equipment-grounding conductor terminating in the control room/space(s), located per Otis layout. Feeder conductors and grounding conductor sized according to elevator current characteristics as shown on the Otis Confirmation of Power Supply form. Feeder conductors and grounding conductor must be copper. A fused disconnect switch or circuit breaker capable of being locked in the open position, for each elevator per the National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1) with feeder or branch wiring to controller [NEC 620-51, 620-61(D), and 620-62/CEC Rule 38-013(2)(a)]. The disconnecting means required by the National Electrical Code/ CEC [Rule 38-051] shall be provided with all associated wiring and conduit to the controller. Size of main contacts to suit elevator power characteristics. Fuses are to be current limiting class RK1 or equivalent. Circuit breakers are to have current limiting characteristics equivalent to class RK1 fuses. Fuses or circuit breakers are to be time delay to cover the full load up accelerating current. Accelerating current typically is the peak as indicated on the Otis Confirmation of Power Supply Form, and lasts for duration not to exceed 7 seconds. Feeder conductors and associated wiring to the controller to be sized to limit wiring voltage drop to 5% maximum when delivering elevator full load up accelerating current. The building power system used to operate the elevator(s) shall be capable of supplying non linear loads and be capable of absorbing the regenerated power listed on the Otis Confirmation of Power Supply form. In addition, when the Automatic Recovery Operation (ARO) is specified, the mainline fused disconnect switch or circuit breaker shall be equipped with two auxiliary contacts that are positively opened when the mainline disconnect is in the OFF position.
- 6.6.2. If three (3) phase power is not available at the start of installation, a temporary single phase 220V, 55 ampere power supply with fused disconnect or circuit breaker for each elevator and available in the control room/space(s) can be provided. Authorization from the Otis construction superintendent is required to install using temporary power.
- 6.6.3. Provide a dedicated 125-volt, 15-ampere single-phase branch circuit; with a fused disconnect switch or circuit breaker. This disconnect or breaker shall be capable of being locked in the open position and located per the Otis layout. This branch circuit supplies the car lights, car top receptacle, auxiliary lighting power source, and ventilation on each car in compliance with the National Electrical Code [NEC 620-53] or Canadian Electrical Code [CEC Rule 38-053].
- 6.6.4. Provide a dedicated 125 volt, 15 ampere single-phase power supply with a fused SPST disconnect switch or circuit breaker, per group of elevators, for remote monitoring. This disconnect or breaker shall be capable of being locked in the open position and located per the Otis layout, CEC [Rule 38-053].
- 6.6.5. All 125 volt, 15 or 20 ampere single-phase receptacles installed in pit(s), machine space(s), control room/space(s) shall be of the ground-fault circuit-interrupter type. A dedicated single-phase receptacle supplying a permanently installed pit sump pump shall not require GFCI protection.
- 6.6.6. Provide electric power for lights, tools, welding, hoisting, etc. during installation with sufficient power for starting, testing and adjusting the elevator. Provide a 220 volt, 30 ampere, 4 wire single phase circuit for temporary platform operation. Access to the circuit must be near a hoistway opening in the lower half of the building and must be available to start the installation.
- 6.6.7. Provide one (1) dedicated outside telephone line, per group, to the elevator control room/space(s), and terminated at the controller designated by the Otis construction superintendent. Please check with your local code authority for the exact requirements in your area, one dedicated telephone line per elevator may be required.
- 6.6.8. In areas under the jurisdiction of AMSE A17.1-2004/CSA B44 or later where the elevator travel is greater than or equal to 60 feet /18 meters, provide two-way voice communications means that shall enable emergency personnel within the building to establish communications to each car individually without intervention by a person within the car. The communication means shall override communications to the outside of the building and once established shall only be terminated by emergency personnel outside the car. Refer to ASME A17.1-2004 CSA B44 or later, section 2.27.1.1.4 for exact requirements.
- 6.6.9. For elevators having an intra building intercom, provide a separate 120 volt, 15 ampere, single phase power supply with fused SPST disconnect switch or circuit breaker, located as required for inter-communicating system power supply. Circuit to be arranged for feeding from the building emergency lighting supply if provided. Conduit and wiring for remotely located inter-communicating stations.
- 6.6.10. For installations having Lobby Panels, Fire Control Room Panels, Elevator Monitoring Systems or Remote Controller Rooms provide required conduit (size and number as specified by Otis) with

adequate pull boxes from the elevator hoistway(s) to the location or locations required. Leave a measured pull tape in the conduit. Otis to furnish and pull required conductors.

- 6.6.11. For installations having emergency (standby) power, provide the emergency (standby) power unit and means for starting it. The emergency (standby) power unit shall deliver to the elevator via disconnect switches in the control room/space(s), sufficient power to operate one or more elevators at a time at full rated speed, and rated load. The Emergency (standby) Power source shall be sized to handle the regenerated power from the elevator control drive system(s) as listed in the Otis Confirmation of Power Supply Form.

An automatic Power Transfer Switch for each power feeder to monitor both normal and emergency (standby) power conditions and to perform the transfer from one to the other. Switch to have two sets of normally closed dry contacts, one to be open when the switch is in the emergency (standby) power position; the other to open upon initiation of power transfer and to close when transfer is complete. Switch to have an inhibit function which will delay transfer to normal and/or emergency (standby) power by an adjustable period of 0 – 300 seconds. Switch shall have a phase monitor feature, which prohibits the transfer of power between “live” sources unless the sources are in phase with each other. If a shunt trip device is provided, an additional normally closed contact, with all associated wiring and conduit to the controller, is required from the emergency (standby) power source. The emergency (standby) power unit must be capable of absorbing regenerative power per elevator in accordance with ANSI/NFPA 70 requirement 620.91.

Emergency (standby) power system shall be connected to 125-volt power circuit as noted in note A.2. of the Power Confirmation for the branch circuit supplying the car lights, car top receptacle, auxiliary car lighting power source and car ventilation.

You agree to indemnify and save Otis harmless against any and all liability and costs arising out of your failure to carry out any of the foregoing requirements.