DIVISION 14 CONVEYING SYSTEM

14010 BASIC REQUIREMENTS FOR HYDRAULIC ELEVATORS

PART 1 GENERAL

A. The following requirements cover the standard new installation and or modernization of passenger traction elevator at the Columbia University, New York, NY
   1. All requirements per ASME code and RS-18 to bring the elevator to current code compliance, including ADA requirements.
   2. An elevator consultant shall be provided for new installation of any elevators system for specification review, incorporating Columbia standard requirements, monitoring of installation up to completion.

B. The purpose of this instruction for the new installation and or modernization of the elevator system is to provide a standard documentations required above and beyond basic trade installation and code regulation and to include any additional requirements other than industry standard trade installation. See Division 14, Section 14210 for Traction Elevators and Section 14250 for Elevator Cab.

PART 2 PROFILE OF EQUIPMENT

A. Operation; Automatic / Attendant/Access
B. Controller MCE MOTION-2000
C. Cab enclosure: New (see Section 14400)
D. Door operator: Shall be GAL–AC programmable-MOVFR/VVVF
E. Car and corridor Fixtures: New COP (PI’s) and Hall call Fixtures by Monitor Fixtures
F. Machine Type: Hydraulic System MFR BY CEMCO
G. Motor type: Submersible Pump type

PART 3 HOISTWAY EQUIPMENT

A. Pit Equipment
   1. New Installation or upgrade shall provide and install sump pump shall be installed. Pump shall be covered and protected by plate.
B. LS QUAD LANDING CONTROL SYSTEM (MCE)
   1. New Installation or upgrade shall provide and install MCE LS QUAD landing system.
C. Hoistway Pipe and Wiring
   1. New installation or upgrade shall furnish and install new hoistway pipe.
   2. Spare wires equal to 15% shall be provided in the new traveling cabled.
D. Terminal Stopping and Slowdown Devices
   1. Shall use MCE (TLS-Terminal Limit Switch) model no. (TLS-C-12) AND model no. (TLS-C-16) for normal and final devices.
E. Roller Guides
   1. Shall use High or Low Speed ELSCO rollers depending n speed of the elevator.

PART 4 MACHINE ROOM EQUIPMENT

A. Pump Motor
   1. It shall be submersible provided by CEMCO
   2. It shall be shall be energy efficient
B. Pump
   1. It shall have the CEMCO hydraulic System package including Control Valves.
C. Controller
   1. Shall furnish and install new Microprocessor Controllers MCE MOTION-2000
   2. Full Access Control for Elevator (ACE) security system shall be included
D. Solid State Motor Starter
   1. Starter shall be a solid state soft starter by Siemens
PART 5  KEY SWITCHES APPLICATION

A. Independent/Attendant key Mul-T-Lock CU# M7.1
B. Fire Fighter’s Service Yale, key #2642 and 1620
C. Elevator Machine Room Mul-T-Lock Master keyed to M6 elevator master
D. Car Operating Panel J201 keyed “OFF” the master “FP”.
E. Service Panel J201 keyed “OFF” the master “FP”.
F. Floor Lock out Mul-T-Lock
G. Final and Bottom Access Switch J217 keyed “OFF” the master “FP”.

PART 6  CAR EQUIPMENT

A. Car Stations
   1. Faceplates shall be hinged
   2. Shall be constructed of brush stainless steel No. 4.
   3. Shall be stainless steel flush mount
   4. Shall have lockable service compartment
   5. Shall be manufactured by Monitor Controls

B. Ventilation: See Section 14250 under Elevator Cab
   1. Provide a Morrison centrifugal fan capable of developing 0.1 inch static pressure differential with a minimum capacity of 450 CFM

C. Lighting: See Section 14250 under Elevator Cab

D. Car Emergency Light
   1. Stand by lighting and Alarm:
   2. Install new car-mounted battery unit with solid state charger to operate alarm bell and car emergency light fixture.
   3. Battery shall be rechargeable with minimum 5-year life expectancy

E. TOP OF CAR INSPECTION
   1. Top of Car Inspection Station shall be mounted on top of each car. This device shall be activated by a switch located in the Car Operating Panel and shall include: Use GAL Unit

PART 7  DOOR EQUIPMENT

A. Door Operator
   4. It shall be and AC VVVF MOVFR Closed Loop High Performance with encoder less VVVF drive, 1/2 HP motor, heavy duty sprocket, chain, belt and sheaves shall be provided and installed

B. Door Control Device
   1. Shall be Tri-tronic infrared or Otis 3D Lambda is acceptable and no other.

C. Hoistway Door Unlocking Device:
   1. Provide escutcheon unlocking device in door panel at all floors.

D. Gibs
   1. Shall install new fire gibs.

PART 8  COMMUNICATION

A. Car Operating Panel
   1. Car Emergency Phone shall be K-Tech, model # E201-A
   2. Provide new and dedicated telephone line for the emergency phone programmed to connect directly to Public Safety Desk at 212-854-5555.

B. Machine Room
   1. Shall provide a new telephone in the machine room.
   2. Shall provide a new dedicated CU phone line. Installation and monthly charges shall be included within the New Installation Warranty period.
   3. Shall provide and install new Ethernet line with Static IP address for remote monitoring of the controller. Installation and monthly charges shall be included within the New Installation Warranty period.
4. Shall provide and install a dedicated analog phone line capable of outside connection for outside line monitoring. Installation and monthly charges shall be included within the New Installation Warranty period.

PART 9  ENGRAVING

A. Car Operating Panel
   1. Car Capacity etched on top section of the car operating panel
   2. Car CU # etched on top of the car operating panel directly below the car capacity.
   3. No Smoking etched on top of the car operating panel directly below the car CU#.
   4. City Id no. ------- etched on top of main car operating panel.

B. Car Service Access Panel
   1. Car Certificate stating “INSPECTION CERTIFICATE ON FILE AT THE FACILITIES MANAGEMENT VERTICAL TRANSPORTATION OFFICE FOR INFORMATION CALL 212-854-2222”

PART 10  SIGNAL SYSTEM

A. Car Operating Panel
   1. Car Call buttons shall be model TR-1100, 1 3/8” Halo Clear plastic

B. Hall Station
   1. Hall buttons shall use stainless steel flush mount, model TR-1100, 1 3/8” Halo Clear plastic
   2. Hall button at all floor shall be with digital Positioning Indicator, (1”) inch in high manufactured by Monitor Control.

E. Positioning Indicators
   1. It shall be digital
   2. Inside car positioning indicator shall be two (2) inch high.
   3. Hall station positioning indicator shall be one (1) inch high.

E. Car Lantern Direction Indicator
   1. Provide new, large car lantern in the car door jambs to meet the requirements of ADAAG.
   2. Wire lanterns shall be flushed mounted.

PART 11  MONITORING:

A. Remote Monitoring:
   One (1) Laptop or PC, Dell system with minimum 2.8 Giga-Hertz microprocessor speed, equipped with equipped with Motion Controllers Software. The minimum requirement is a Pentium 2.6 GH, 500 GB hard drive with 4GB Ram of memory x DVD Writer with Ethernet port. It shall be equipped with high speed Ethernet wireless. Provide a separate 35inch flat screen LCD monitor and HP laser printer with internet capability.

PART 12  SOFTWARE

A. The contractor/Installer shall provide written guarantee from the controller manufacturer, to include in the base price software upgrades for a period of ten (10) years at no additional cost.

B. Solid–State Control Drawing
   1. Supply at the completion of the installation, with changes incorporated as necessary to corresponds to the completed installations, flow diagrams and Boolean Diagrams showing the operations of any solid state systems or devices employed.

PART 13  ELECTRICAL WIRING AND WIRING CONNECTIONS:

A. Conductors and connections
   1. Shall have no splices or similar connections in wiring except at terminal blocks, control compartments, junction boxes, or condulets.
   2. Shall provide 15% spare conductors throughout. Run spare wires from car connection points to individual elevator controllers in the machine room.
   3. Shall have four (4) pairs of spare shielded communication wires in addition to those required to connect specific items.
   4. Provide five (5) pairs of spares conductors from controller to Car operating panel.
   5. Supply wiring diagrams and data
B. Electrical Diagrams
   1. Shall supply three prints and one sepia of the wiring and schematic diagrams revised to show all changes that have been made.
   2. Provide all schematics in digital CD/DVD format.
   3. Supply wiring diagrams and data as required for the execution of the work herein described.
   4. Supply, at the time of the final acceptance, three prints and one sepia of the wiring and schematic diagrams revised to show all changes that have been made.
   5. If, in the course of the maintenance contract, changes are made to the wiring and controls, supply two sets of marked-up prints of the altered schematics and field wiring diagrams showing the changes.

C. Conduit
   1. Painted galvanized steel conduit and duct. Conduit size is ½” minimum.

D. Traveling Cables
   1. Type ET flame and moisture-resistant outer cover.
   2. Provide 2 RG-59 coaxial CCTV cables within traveling cable from car controller to car top.

E. Floor Numbers Inside hoistway:
   1. Stencil paint 4” high floor designations in contrasting color on inside face of hoistway door at each landing and adjacent to the leading edge of the door.

PART 14 PAINTING

A. Ensure that all newly installed equipment, except for machine surfaces and non-rusting surfaces, is protected with two heavy double coats of rust inhibiting primer of a neutral color. After completion of machine room work, apply one coat of paint to the machine room floor and also a coat of paint to the pit equipment and pit floor.

PART 15 SPARE PARTS

A. Shall provide One (1) of each power supply used by the microprocessor system
B. Five (5) of each mass terminal connector used to connect external wiring to the system as well as those used to connect different parts to the system. This also includes connectors used on the main computer electrical bus.
C. Five (5) each of all buses used in the system.
D. A list of vendors for all parts used in the installation.
E. The controller manufacturer must guarantee availability of exact replacement parts (no modifications) of every type for a period of not less than five (5) years.
F. Supply parts on request for a period of fifteen (15) years subsequent to final acceptance of the equipment, at then prevailing prices.
G. Where purchased components are used, ensure that the original manufacturer’s name and component designation are clearly mark on the part or in the parts catalogue supplied in accordance with this specification.

PART 16 ADDITIONAL REQUIREMENTS:

A. Elevator Motor Room
   1. Lighting Fixtures - Install new high energy efficient fluorescent fixtures with FO32T8 lamps adequate for the illumination of the machine room. Wrap around diffusers shall be provided to protect lamps from falling.
   2. Paint: The elevator motor room floor shall be painted with Epoxy paint Navy Battleship Gray on the floor and semi-gloss Linen white on walls and ceiling.
   3. Air Conditioning: Contractor shall provide proper cooling by installing a dedicated split system such as Mitsubishi units.
   4. Door: Furnish and install new fire retardant door and adjust to properly align door hardware and to meet squareness of door buck. Install new door check to provide self locking and self closing. Door lock shall be provided with the Columbia University Standard Mul-T-Lock Elevator Master System.
   5. Communication: Shall Provide a High-speed LAN Ethernet connection jack box to controller

B. OWNER’S PROPERTY
   1. Diagnostic Tools: At the completion of the work, the contractor shall provide items listed. The items shall become the Owner’s property.
a. One (1) complete set of all diagnostic tools and equipment required for the complete system maintenance of all aspects of the control and dispatch system and solid-state motor drive units. The diagnostic system shall be an integral part of the controller and provide user-friendly interaction between the serviceman and the controls. All such system shall be free from secret codes and decaying circuits that must be periodically reprogrammed by the manufacturer. Diagnostic equipment shall be permanently mounted in the control cabinet.

b. Provide the (CRT) display terminal and keyboard used to view and alter the individual car operating parameters, such as jerk, acceleration, deceleration, and contract speed. Leveling distances etc. Remote configuration of individual car operating parameters shall be permitted when the car controller is attached to a CRT/PC. Provide all hardware, latest software, wirings and associated connectors.

PART 17 SIGNAGE

A. The elevator motor room door shall have signage on door stating “ELEVATOR MACHINE ROOM”.
B. All elevator controllers shall have ASME 17.1/17.2/17.3 regulation signage in front of the controller.

PART 18 FEES AND PERMITS

A. FILING
   1. All filing fees and permits to be provided by the Elevator Contractor
   2. Shall include filing for the 5-year testing.

PART 19 INSTALLATION WARRANTY and MAINTENANCE

A. General: After Final Acceptance, provide the following maintenance for a period of 12 months.
B. Examinations: Weekly, including adjustments, cleaning and lubrication of equipment. Include cleaning of hoistway and machinery spaces.
C. Replacement: Replaced components were required, using parts produced by original manufacturer.
D. Call Backs: Provide 24-hour emergency call back service at no expense to Owner. Call back must be provided within one (1) hour from the time contractor is notified.
E. Extension of Maintenance Period: Where shutdowns exceed an average value of one per month, extend maintenance period one month for each month in which shutdowns exceed specified average value at no additional cost to Owner.
F. Records: Maintain complete maintenance records including check charts, lubrication logs and activity logs: provide check charts and lubrication logs for the elevator

THE END