

**New Microprocessor Elevator control system for AC Gearless traction operation**

A new microprocessor-based control system shall be provided to perform the functions of safe elevator motion. Included shall be all of the hardware required to connect, transfer and interrupt power, and to protect the motor against overloading. New system designed to improve the levels of performance, reliability, safety and energy efficiency of your elevator.

The control for the hoist motor will be by means of a solid-state drive system. The system will be a controlled pulse-width type modulated AC vector drive. The variable voltage variable frequency drive will convert the AC power supply using a two-step process to a variable voltage variable frequency power supply for use by the hoist motor. Varying the frequency and voltage of the motor will automatically and continuously control the speed, acceleration and deceleration. The system will be closed loop.

Elevator controls ACVF drive to be regenerative capable

Each controller cabinet containing memory equipment shall be properly shielded from line pollution. The microcomputer system shall be designed to accept reprogramming with minimum system down time. All high voltage (110V or above) contact points inside the controller cabinet shall be protected from accidental contact in a situation where the controller doors are open. The microprocessor-based control system shall utilize on-board diagnostics for servicing, troubleshooting, and adjusting without requiring the use of an outside service tool.

A load weigh device will be provided which will continuously monitor the load in the elevator car. The load weigh device provides information necessary for the Bypass Load Feature and the Overload Feature to operate. The load weigh device is also used to provide pre-torqueing so higher performance can be achieved

Control system provided should have on board diagnostics and NOT require any additional tools for full elevator troubleshooting and diagnostics by normal preventative maintenance service teams. Successful bidder to provide a signed statement attesting to the following;

“ The elevator control system provided by \_\_\_\_\_ for the Portland Housing Authority housing elevator modernization project at Harbor Terrace, does not require any additional hardware, or software tools, or special personnel, to have full system access for adjusting, diagnostics, and any other standard PM service and repair function”

Acceptable Manufacturers

Otis Elevator

Kone Elevator

ThyssenKrupp Elevator

Schindler Elevator

3<sup>rd</sup> party controls vendors MCE – I Control, Smartrise C4, and GAL Galaxy