SECTION 11 86 04 – CABLE HOISTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Work Includes: Designing, manufacturing, testing, furnishing, installing and commissioning cable hoists.

1.2 RELATED SECTIONS

A. Drawings, General Provisions of the Contract, including General and Special Conditions, as well as General electrical materials and methods of installation apply to work of this section.

1.3 REFERENCES

A. The latest approved version or edition, by the authority having jurisdiction, of the following codes, references and standards shall apply. If the authority having jurisdiction has not approved or adopted a particular code, reference, or standard, the latest published edition shall be applicable.

1. NEMA MG 1 - Motors and Generators; National Electrical Manufacturers Association.
2. NFPA 70 - National Electrical Code; National Fire Protection Association.
3. DFW Design Criteria Manual.

1.4 SUBMITTALS

A. Product Data: Provide wiring diagrams detailing power connections, control, safety and protective device considerations and arrangement for travel limit (up and down) of cable hoist.

B. Shop Drawings: Indicate mounting location of cable hoist for each passenger loading bridge using a fixed reference point.

C. Maintenance Data: Data for components, including motor, geartrain, cable sheave, control and limit devices.

D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

E. Special Tools List: Provide a list of any special tools required to perform any field performable maintenance tasks.

F. UL Compliance certificates as required by 1.05.D.

1.5 QUALITY CONTROL

A. Supply, install and commission all cable hoists.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years of documented experience.

D. UL Compliance: Cable hoist units shall be UL, or ETL approved by a nationally recognized testing laboratory at time of bid. Submit certifications with bid.

1.6 OPERATION AND MAINTENANCE MANUALS

A. Provide six (6) bound copies, and three (3) electronic copies (external hard drive) of the Operation and Maintenance Manual for each model cable hoist supplied fourteen (14) days prior to Substantial Completion.

B. The manuals shall fully describe each product, system, or subsystem numbered logically and separated into sections and contained in rigid plastic binders with identification inserted in clear plastic pockets on front and spine of each binder. Manuals shall be assembled in accordance with ATA 101

C. The content of the manuals shall be limited to information and data that specifically apply to products provided and shall include, at minimum, a general description, theory of operation, routine normal and special operating instructions and sequences. Also included shall be routine maintenance procedures and guides for troubleshooting, disassembly and reassembly instructions, and recommended spare parts list including current prices and sources.

D. Wiring diagrams and schematics shall be incorporated into the manuals to clearly show features such as controls, switches, instruments, and indicators by name and location.

E. Special Tools List: Provide a list of any special tools required to perform any field performable maintenance tasks.

F. Spare Parts List: Provide manufacturer's recommended spare parts list.

1.7 DELIVERY, STORAGE, AND PROTECTION

A. Lift and support cable hoist units with the manufacturer's designated lifting or supporting points.

B. Provide cable hoist units which do not require disassembly and reassembly because of movement into the final location and follow manufacturer's written instructions.

C. Deliver equipment as a factory-assembled unit whenever practical for shipping purposes with protective crating and covering.

D. Store equipment and material in suitable facilities until delivery, installation, and acceptance by the Owner.

E. Coordinate the delivery acceptance of this equipment at the job site, receive, offload, store and protect this equipment until such time as it has been installed and accepted by the Owner.

F. Properly dispose of all waste including, but not limited to, packaging, crates, etcetera.

1.8 WARRANTY

A. Provide a full parts and labor warranty for the new hoists. Labor warranty shall be performed by factory trained service technicians. Warranty shall run two (2) years from the Date of Substantial Completion. Date of Substantial Completion is defined as the date the system is turned over by the manufacturer, and accepted by the Owner for normal operation, per Section 01 77 00.01 – Closeout Procedure- System Acceptance. All warranty services shall be at the site of the installation. Provider shall be responsible for all travel and sustenance expenses necessary for warranty services.

B. Shipping and handling charges for warranty parts are the responsibility of the provider.

C. Warranty Services shall be commenced with on site representation, by qualified repair technicians, within 72 hours from the request of the Owner.

1.9 TRAINING

A. Cable hoists should require minimal training. Provide operator's training at the time of, and to coincide with each session of the 400 Hz or PBB training.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. JBT AEROTech - Jetway.

B. ITW (J&B Aviation Services)

C. MCM

D. Substitutions: As approved by Engineer.

2.2 BRANDING

A. The Owner, or Owner's tenant, reserves the right to provide branding on the exterior sides of the installed equipment and desires that this branding not be diminished by excessively large or aesthetically displeasing branding of individual pieces of equipment. All manufacturers branding, labeling, marking, etcetera, on their products shall be relatively small compared to the overall size of the piece of equipment. The Owner reserves the right to require any non-approved branding removed from finished products at no additional cost.

2.3 DESCRIPTION

A. A cable hoist shall be included for the "off-the-ramp" storage of the aircraft ground power cable. The use of under cab "Cable Retrievers" is not permitted.

B. The cable hoist shall be mounted on top of the outermost tunnel on the aircraft side of the PLB, or alternately on top of the bridge cab, or in a location approved by the Engineer. The mounting position or method shall not inhibit bridge movement in any way.

C. The cable hoist shall store the entire aircraft ground power cable (including the plug) off the apron at the side of the passenger boarding bridge tunnel (or cab), by means of saddles attached to the end of a stainless steel flexible cable which is wrapped on drum(s) mounted on the shaft of a gear reduction motor drive. When the aircraft ground power cable has been lowered to a usable position, the operator may unsnap the rings releasing the aircraft ground power cable so that it may be fully deployed and plugged into the aircraft. Conversely when the aircraft ground power cable is unplugged from the aircraft, it may be pulled back to the snap rings and hoisted from the apron.

2.4 COMPONENTS

A. Each cable hoist shall consist of the following components:

1. Motor: 1/2 horsepower (minimum), rated at 480V, three phase, 60 Hz, and shall be fully capable of raising and lowering the aircraft cable as specified.
2. Gear Reducer: NEMA rated Class D.
3. Cable Drum: Shall be capable of housing entire length of cable used to raise and lower aircraft power cable.
4. Protective Steel Housing.
5. Cable: The cable system shall consist of a 5/32 " diameter wire rope tested in excess of 350 lbs. The cable shall be of adequate length to fully raise and lower the aircraft ground power cable.
6. Limit Switches:

    a. Cable Down: An independent cable down limit switch shall prevent the wire cable from unfurling completely when pressing "down" pushbutton to lower aircraft power cable.
    b. Cable Up: An independent cable up limit switch shall deenergize the cable hoist drive motor, thereby setting the brake, when the cable is completely retrieved from the ramp and in its upmost position.
    c. PBB Interlock: An independent switch shall provide an interlock to the passenger boarding bridge. This limit switch shall be interlocked with the PBB control circuitry to prevent horizontal movement only, of the PBB, while the cable is deployed. This contractor shall install this interlock. (Vertical operation shall not be affected, including auto level circuits.)

2.5 ACCESSORIES

A. The following equipment shall be provided with each cable hoist:

1. Mounting saddles
2. Racks
3. Cantilevers
4. Mounting kits for proper installation as shown on the Drawings.
5. Industrial grade snap hooks.

B. Hardware shall be factory finish painted as specified in this section.

2.6 CONTROLS

A. RAISE/LOWER controls shall be externally provided. The control station shall be integrated with the 400 Hz control station and shall be housed in a NEMA 4X stainless steel enclosure, and shall operate on 24 volts or less and shall be located on the bridge lift column (aircraft side of the bridge), so as to be accessible from ground level. Coordinate this position with all other installed equipment and ancillaries so as to prevent interferences. The station shall be configured as indicated on the design drawings.

2.7 INTERLOCKS

A. Unit shall interlock with the PBB to prevent PBB horizontal operation while cable hoist is in the deployed state. Coordinate with requirements of Section 118604.

B. Unit shall interlock with the PBB to illuminate a "400 Hertz Aircraft Cable Deployed" warning light on the PBB console when the cable hoist is in the deployed state. Coordinate with requirements of Section 118604.

2.8 FACTORY FINISHING

A. Factory primed and finished with industrial grade enamel, electrostatically, or powder coat, applied, and shall match the color of the new passenger boarding bridge.

PART 3 - PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that cable hoist is installed in manufacturer's recommended location on the passenger boarding bridge.

3.2 INSTALLATION

A. Installation services shall be provided by an installing contracting company that has a minimum of three (3) years documented experience of successful installations on projects of similar size and scope.

B. Install in accordance with manufacturer's instructions.

3.3 STARTING EQUIPMENT

A. Adjust for proper operation within manufacturer's published tolerances.

B. Demonstrate proper operation of equipment to Owner 's designated representative.

3.4 ADJUSTING

A. Adjust mounting saddles on aircraft power cable to adequately raise cables off the ramp when not in use and with passenger boarding bridge in its fully lowered position.

B. Ensure aircraft cables are installed in such a manner as to prevent damage to any components throughout the full range of PBB motion.

END OF SECTION 11 86 04