ADDENDUM 3

DATE: August 17, 2015

RFP NUMBER: FM2016-001 - General Contractor for Renovations to Stage Rigging in Texas Hall

BID OPENING DATE & TIME: August 20, 2015 at 3:00 p.m.

APPROVED SUBSTITUTION:
Request: ETC Foundation controller and Hand Held Remote is a better match for this project. To that end, please accept this formal request for use of ETC Foundation controller and FHHR. I have attached a bill of materials and data sheets for reference.

Answer: Theater consultant has determined that this substitution meets the project requirements and is approved.

__________________________
Judy McKimney
Contract Manager (617) 272-0820

This addendum forms a part of the contract documents and modifies the original solicitation documents. Acknowledge receipt of this Addendum in the space provided on the Bid Submittal Form, or by returning one (1) signed copy of this notice.

Make all changes identified in addendum to the solicitation documents. All other terms and conditions in the solicitation documents remain unchanged and in full force and effect.

SIGNED: ________________________________

COMPANY NAME: ________________________________
Bill of Materials

For

Univ of TX Arlington Texas Hall Rigging

Arlington, TX

August 17, 2015

Quotation # 130040988.0.1

All equipment where applicable standards have been established shall be built to the standards of Underwriters Laboratories Inc., the National Electrical Code, the United States Institute for Theatre Technology and the American National Standards Institute. Approved equipment shall be so labeled on delivery to the job site.

This quotation is based on a bill of materials discussed with Steve Aldrich on 8/14/15.

I. Rigging Control System to consist of:

A. Motor Control Interface Devices to consist of:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>QUOTE-60074 MCI - Motor Control Interface - DIN-rail mounted device for controlling third party motors with an ETC Rigging Controller. 24V power supply (required), reversing contactors, frequency drives, limit switches, position encoders, load cells, and sensors are the responsibility of the integrating contractor.</td>
</tr>
</tbody>
</table>

B. Foundation Rigging Control System to consist of:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8060A1000 FRC - Foundation Rigging Controller - fixed and variable speed hoist controller with: 48 hoist control channels 1 soft upper limit per hoist 1 soft lower limit per hoist 6 trim positions per hoist 2 system wide trim positions for hoists Preset numbers from 1 to 999 Cue numbers from 1 to 999.99 1 active playback, ability to start next cue while current cue is still running Solid state hard drive with storage capacity for thousands of shows USB port for flash drive Multiple password-protected user access levels 15” color multipoint LCD touchscreen interface for programming Deadman “GO” buttons for cue playback control Joystick with deadman button for manual operation and speed control</td>
</tr>
<tr>
<td>1</td>
<td>8060A1002 FRC-WB - Foundation I wall mount bracket</td>
</tr>
</tbody>
</table>
Bill of Materials for
Univ of TX Arlington Texas Hall Rigging
Arlington, TX
August 17, 2015
Quotation # 130040988.0.1
Page 2 of 3

C. Foundation Handheld Remote to consist of:

1. 8060A1006 FHHR - Foundation Handheld Remote - touchscreen remote with 50' lead
2. QUOTE-60078 FHHR-PS - Foundation Handheld Remote plug-in station with FHHR wall
   mount hook
2. M7399-F FHHR HOOK - FHHR Wall Mount Bracket

1. Network Control Equipment to consist of:

1. 7150A1002 SNB - 5-port Simple Network Box with:
   - 5-port Ethernet switch
   - patch panel
   - patch cables
   - power supply

II. Alternate 1: Add Future Shell Hoist Control Interfaces to consist of:

A. Motor Control Interface Devices to consist of:

3. QUOTE-60074 MCI - Motor Control Interface - DIN-rail mounted device for controlling third
   party motors with an ETC Rigging Controller. 24V power supply (required),
   reversing contactors, frequency drives, limit switches, position encoders, load
   cells, and sensors are the responsibility of the integrating contractor.

III. Manufacturer’s Services:

A. One (1) set of B size drawings for approval submitted within 4 - 6 weeks of receipt of
   order.
B. Three (3) year limited warranty on parts and workmanship on condition of annual
   inspection by ETC certified personnel.
C. Two (2) sets of Operation Manuals (one hard copy; one CD)
D. Production requires 2 - 6 weeks for shipment of equipment after receipt of written
   approval and release. Shipment lead times will be advised at time of order.
E. One day of Foundation Controller Training by an ETC factory engineer. This service is
   to be provided on 21 days’ notice.

IV. Notes and Clarifications:

A. This quotation excludes all installed cabling, interconnecting cables, and all back
   boxes unless specifically listed.
B. Motorized hoists and all related accessories are to be provided by others.
C. ETC hoist control systems must be used with hoists attached only to structures that
   have been reviewed by a qualified person and deemed to be capable of supporting
   the forces/loads imposed by the system. Verification of this review is the
   responsibility of the installing contractor.
D. ETC Rigging control installations shall comply with all local, state and national codes
   as required by the authority having jurisdiction.
E. 3 phase power service of appropriate size is the responsibility of the installing contractor.

F. Electronic Theatre Controls does not provide Training DVDs, but will permit video recording of user personnel training.
ETC's Foundation Rigging Controller with its modern and intuitive user interface is the workhorse behind the scenes in a modern theater, controlling up to 48 variable and fixed-speed hoists.

APPLICATIONS
- Academic theaters
- Small theaters
- Houses of worship
- Convention centers

FEATURES
- Easy, intuitive operation
- Controls up to 48 variable and fixed-speed hoists
- Rugged industrial construction
- High-resolution full-color multitouch screen
- Proximity and ambient light sensor – automatically controls LCD backlight to keep light pollution on stage at minimum
- Status, position and load readout on screen
- Lockable user-control area with illuminated controls
- Proportional joystick for precise variable-speed control
- Go button for movement execution
- Manual, individual or multiple hoist movements
- Target moves – move to a specified trim position
- Presets – recall target positions for one or multiple hoists
- Cue stack – run a pre-programmed show
- Time or speed-based cues with possibility for individual parameters and ramp times.
- Hardware-based hold to run control, E-stop system and dynamic load limitation
- Quiet, maintenance-free operation, no moving parts (no fan or mechanical hard drive).
- Optional external E-Stop stations
- Optional Remote Control
- Optional Remote Cue Enable button – A spotter can enable a cue for execution
- Hoist load profiling – Stops movement at unexpected load conditions
- Automatic self tests of all safety circuits
- Hoist history stored in log files
- Hoist-usage data statistics and service-interval reminders

GENERAL INFORMATION
- Simple and cost-effective wiring scheme
- Built-in inspection support software and inspection report generator
- Multiple languages (including English, Spanish, French, German), imperial or metric data display

ACCESSORIES
- Locking cover for screen
- Rack Mount Kit
- Remote Control
- Remote Enable Button
- E-Stop Station

ORDERING INFORMATION

Foundation Rigging Controller

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRC</td>
<td>Foundation Rigging Controller</td>
</tr>
<tr>
<td>FRC-WB</td>
<td>Wall Mount Bracket Foundation</td>
</tr>
</tbody>
</table>

Product Accessories

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRC-LC</td>
<td>Foundation Locking Cover</td>
</tr>
<tr>
<td>FRC-RMK</td>
<td>Foundation Rack Mount Kit</td>
</tr>
<tr>
<td>FSRC</td>
<td>Fixed Speed Remote Control</td>
</tr>
<tr>
<td>RENB</td>
<td>Remote Enable Button</td>
</tr>
<tr>
<td>ESBS</td>
<td>Emergency Stop Button Station</td>
</tr>
<tr>
<td>RCPS</td>
<td>Remote Control Plug-in Station</td>
</tr>
</tbody>
</table>
**SPECIFICATIONS**

**SYSTEM CAPACITY**
- 48 hoist control channels (fixed and variable speed)
- 1 soft upper limit per hoist
- 1 soft lower limit per hoist
- 6 trim positions per hoist
- 2 system wide trim positions for hoists
- Preset numbers from 1 to 999
- Cue numbers from 1 to 999.99
- 1 active playback, ability to start next cue while current cue is still running
- 6 access levels
- 15” color LCD screen with multitouch sensor
- Solid state hard drive with storage capacity for thousands of shows
- USB port for flash drive

**DISPLAY FUNCTIONS**
- Automatic LCD backlight intensity adjustment
- “Sleep Mode” initiated by proximity sensor
- Log in screen
  - Live machine channel view
  - Clock
  - Show file name
  - Venue logo
  - Installer contact information
  - Self-test status
  - Inspection Status
  - Days-to-next-inspection counter
  - Login
  - Shutdown
- Manual Movement Screen
  - Live machine channel view
    - Number
    - Name
    - Position number (imperial or metric)
    - Position bar graph
    - Target readout
    - Target marker
    - Attached load readout (lb or kg)
    - Attached load bar-graph
    - Expected load marker
    - Locked symbol
    - Status / fault condition
    - Flexi channel view mode (hide certain channels)
    - Zoom view via multitouch gestures
    - Pan view via multitouch gestures
- Machine property area
  - Comment entry
  - Manual target entry
  - Trim selection and setup
  - Limit selection and setup
  - Load profiling enable and learn
  - Speed readout and limitation
  - Status readout via simple indicators
  - Statistics readout
    - Distance traveled
    - Peak load
    - Number of E- Stops
    - Since install and since last inspection
    - Hide properties area

**SPECIFICATIONS**

- Preset screen
  - Machine channel view
    - Channel in preset highlight
    - Target position for each included channel
  - List of presets
  - Preset names
  - Preset comments
  - New, copy, delete, load preset
- Cue stack programming screen
  - Channels in spreadsheet or full view
  - Cue name
  - Cue comment
  - New, copy, delete, link, load cue
  - Speed override capability
  - Require external enable button to execute specific cues
  - Speed or time-based cues
  - Up to 48 machines per cue
  - One, split or individual speeds / times per machine in cue
  - Individual wait times and ramps per machine
- Playback screen
  - Channels in spreadsheet or full view
  - Indication of machines that will move in next cue
    - Highlight in channel view
    - Indication of direction
    - Indication of distance
    - Indication of speed
    - Indication of wait and move time
  - Playback rate / rate override display
  - Cue comment
  - External enable button status
  - Time to cue completion number and bar-graph
  - Go next cue ability status display

**PLAYBACK CONTROLS**
- 2 illuminated Go buttons
  - Hold to run control
  - Start target moves or programmed cues
  - Target or cue-loaded indication via illumination
  - “Go-next-cue” while executing current cue
  - Start of multiple machines with different speeds and different directions
- 1 RGB-illuminated proportional joystick, dead man button
  - Hold to run control
  - Move one or several machines
  - Precise speed control and positioning
  - Indicating status and direction of joystick via RGB LEDs
  - Live rate override during programmed moves, allows slowdown to standstill and speed up of moving machines

**SET-UP AND CONFIGURATION**
- Showfile management
  - Load, save, import, export
  - Internal hard drive and external USB stick
- User management
  - User names and PIN codes
  - Access via PIN code or USB-dongle
- System configuration
  - Default settings
- Installation, configuration, set up and diagnostics software on board
- Inspection
  - Control system inspection wizard
  - Inspection report PDF generator
SPECIFICATIONS

MECHANICAL
- Rugged industrial formed steel and machined aluminum enclosure
- Wall Mount
- Rotating and lockable user-controls area
- Anodized and powder-coated, scratch-resistant surfaces
- Internal covers protect electronics during installation

ELECTRICAL
- Power: 100V to 240V, 50Hz / 60Hz, 2A max.
- All signal and power cables on connectors
- Hard-wired dead man and E-Stop signals to hoists
- Proximity and ambient-light sensor
- 1 Ethernet Port
- 2 MCX-Bus Universes
- 2 external E-Stop station(s) connectors
- 1 remote control connector
- Industrial grade illuminated joystick, Go and E-Stop buttons

THERMAL
- Ambient temperature: 0-40°C / 32-104°F
- Relative humidity: 20-90% non-condensing

PHYSICAL

Product Dimensions

<table>
<thead>
<tr>
<th>MODEL</th>
<th>HEIGHT</th>
<th>WIDTH</th>
<th>DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>inches</td>
<td>mm</td>
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<tr>
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Product Weights

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<tr>
<td></td>
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<tr>
<td>FRC</td>
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HOIST ORDERING INFORMATION

PRODIGY HOISTS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1000S</td>
<td>Variable speed hoist, 180ft/min, WLL 1000lb</td>
</tr>
<tr>
<td>P800G</td>
<td>Fixed speed hoist, 30ft/min, WLL 800lb</td>
</tr>
<tr>
<td>P1300G</td>
<td>Fixed speed hoist, 30ft/min, WLL 1300lb</td>
</tr>
<tr>
<td>P1900G</td>
<td>Fixed speed hoist, 30ft/min, WLL 1900lb</td>
</tr>
<tr>
<td>P650E</td>
<td>Fixed speed hoist, 30ft/min, WLL 650lb, up to 48 circuits</td>
</tr>
<tr>
<td>P1000E</td>
<td>Fixed speed hoist, 30ft/min, WLL 1000lb, up to 48 circuits</td>
</tr>
<tr>
<td>P1500E</td>
<td>Fixed speed hoist, 30ft/min, WLL 1500lb, up to 48 circuits</td>
</tr>
</tbody>
</table>

Front view  Side view  Rear view
**GENERAL INFORMATION**

The Foundation Handheld Remote (FHR) provides a powerful control solution for your Foundation rigging control system. The handheld unit allows users to view their Foundation controller user interface via a 6.5-inch touchscreen. When connected to a Foundation controller, operators have the ability to select and control motors from locations with an optimal line of sight, manually moving single or multiple motors with accurate speed and position control. The FHHR also supports target position movement, the ability to recall and store all trim positions and presets, and even run cues. Additionally, users get live-cue progress information and live-status information from motors even if another operator is running the rigging system from the Foundation controller.

**APPLICATIONS**
- Theaters
- Schools and Colleges
- TV Studios
- Houses of worship
- Convention centers

**FEATURES**
- Local selection of motors
- Motor position, load and status feedback
- Manual movement control of single or multiple motors
- Accurate manual speed control
- Move to target
- Record and move to trims
- Record, selection and move to presets
- Display and run cues
- Joystick, Go button
- Two-step dead-man button stops motion if operator tenses up
- 48 buttons for numeric entry and navigation
- 6.5-inch (640 x 480 pixels) 16-bit color LCD touchscreen
- Wired remote control with 50-foot integral cable
- View inspection report progress
- Load and save show files
- Easy and intuitive to operate

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Foundation Handheld Remote</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHHR</td>
<td>Foundation Handheld Remote System</td>
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<table>
<thead>
<tr>
<th>Foundation Handheld Remote Accessories</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>FHHR-PS</td>
<td>Remote Control Plug-In Station</td>
</tr>
</tbody>
</table>
SPECIFICATIONS

GENERAL
- Manual motor movement, preset selection and cue stack user interface screens
- Store and recall motor trims
- Enter motor target position
- Retrieve motor status information
- Recall and run presets
- Load and run cues
- Cue progress status
- Live-data feedback while the system is run from Foundation controller
- Joystick for speed and direction control
- Two hardwired two-stage dead-man buttons for ambidextrous use
- Dual-channel, hard-wired E-stop button
- Rugged industrial enclosure

MECHANICAL
- 6.5-inch (640 x 480 pixels) LED-backlit, 16-bit color LCD display with touchscreen
- Rugged, high-strength plastic enclosure
- Adjustable brightness and contrast for low-light conditions
- 50-foot attached cable

ELECTRICAL
- Connection to Foundation control system using the Foundation Handheld Remote Plug-In Station (FHHR-PS)
- Communication via Ethernet network
- Single switch to power up the FHHR and incorporate it into the system E-stop loop

THERMAL
- Ambient temperature: 0-40°C / 32-104°F
- Relative humidity: 10-90% non condensing

PHYSICAL

Foundation Handheld Remote Dimensions

<table>
<thead>
<tr>
<th>MODEL</th>
<th>HEIGHT</th>
<th>WIDTH</th>
<th>DEPTH</th>
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<tbody>
<tr>
<td></td>
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<tr>
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<td></td>
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Foundation Handheld Remote Weight

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<tbody>
<tr>
<td></td>
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Plug-In (FHHR-PS) Station Dimensions

<table>
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<th>MODEL</th>
<th>HEIGHT</th>
<th>WIDTH</th>
<th>DEPTH</th>
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<tbody>
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<td>inches</td>
<td>mm</td>
<td>inches</td>
</tr>
<tr>
<td>FHHR-PS</td>
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<td></td>
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