

## Event Services

# Rigging Overview

Seattle Convention Center (SCC) adheres to a strict rigging process out of concern for the safety of its guests, exhibitors, contractors, and employees. Please carefully review the information and requirements covered in this document to ensure a safe and efficient rigging installation.

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## 1. Definitions

- Aerial Rigging: The attachment of objects to the ceiling grid steel, catwalk, air wall tracks, ballroom points or the suspension of objects from any portion of the physical building.
- Ground Supported Rigging: The attachment of objects to a load-bearing apparatus such as crank-up, electric, hydraulic, mechanized, self-climbing, manually built self-supporting truss systems, hoisting towers, single mast sound, lighting trees or other similar “stick” rigging device.
- EM: Seattle Convention Center Event Manager.
- Encore: Seattle Convention Center’s in-house audiovisual service provider.

## 2. Pre-installation, Planning & Safety

- All temporary rigging must be pre-planned by a ETCP certified person or licensed engineer.
- Accurate drawings depicting the rigging design, points and weights must be submitted to and approved by SCC prior to commencement of any onsite work.
- All rigging designs and engineering must comply with applicable regulations and standards. House rigging rules must be compliant with and incorporated into the rigging design.
- In cases where the rigging installation exceeds or is not covered by pre-determined limits, the design must be reviewed and approved by a qualified structural engineer.
- All critical site conditions affecting the proper execution, integrity and safety of the installation must be site verified prior to submitting rigging design documents for approval.
- A risk management plan may be required that mitigates risks to be at acceptable levels and must be authorized by a qualified person prior to commencement of any on site work.

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- The plan must be approved by all stakeholders, including the enforcing authority, prior to any onsite work.
- Any risk assessment must specifically identify and consider the risks associated with rigging operations. The plan must be coordinated with a qualified individual.

### 3. Rigging Proposals

All rigging proposals must be submitted to Encore in compliance with all requirements outlined in this document.

#### 3a. Submission Schedule and Fees

- All rigging proposals must be submitted at least 45 days prior to installation or rush charges will apply.
- Depending on the complexity of the rigging proposal, evaluations will have an anticipated response time as notated below.
- Drawings submitted onsite or within 7 days prior to installation may require custom pricing, and approval of the rigging installation is not guaranteed.
- Rigging Compliance Inspection will be required onsite during all show load-ins. (Unless working in ballroom spaces where Encore is the exclusive provider, in which case, rigging inspection is included.)

PRODUCTION RIGGING POINTS	RESPONSE TIME	30+ DAYS OUT	30-14 DAYS OUT	14-7 DAYS OUT	ONSITE COMPLIANCE INSPECTION (MINIMUM FEE)
1 - 5 points	(2 days)	\$150	\$225	\$300	\$75
6 - 12 points	(2 days)	\$200	\$300	\$400	\$125
13 - 24 points	(4 days)	\$300	\$450	\$600	\$150
25 - 50 points	(7 days)	\$400	\$600	\$800	\$175
51 - 100 points	(10 days)	\$800	\$1200	Custom	\$250
Over 100 points:		Custom quote (estimate cost at \$10/point above 100 not to exceed \$4000)	Custom	Custom	\$625
<b>EXHIBITOR:</b>		<b>30+ DAYS</b>	<b>30-14 DAYS</b>	<b>14-7 DAYS</b>	
1 - 4 points		\$150	\$225	\$300	Incl.
Each point over 4		+ \$25/point	+ \$35/point	+ \$45/point	Incl.

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### *3b. Rigging Drawings*

Your EM or Encore can provide detailed facility rigging reference diagrams in .dwg or .pdf.

All design drawings must include:

- All items to be flown and quantities on each truss system (i.e. speakers, lighting units, AV, scenic, signs, special effects, automated units, cable, power etc.)
- Rigging points must be indicated by a symbol and accompanied with alpha numeric designations.
- A datum point (an identified position that measurements are taken from).
- A key or legend for symbols used on the drawing.
- The location and load capacity of venue rigging members and attachment points.
- The distribution of loads to supporting members and attachment points.
- Venue obstructions which affect the proper execution of rigging design.
- Rigging point symbols should convey information that is essential to the execution of the rigging (hoist type, load capacity, speed of travel and chain length for example).
- Units of measurement used in association with dimensions, weights and forces on drawings must be clearly identified.
- Required trim heights.
- Location of electrical power supply required for a rigging system including voltage, frequency (single or three phase), amperage and connection.

### *3c. Design Engineering*

- All forces, including dynamic loads, must be within the pre-determined limits of the supporting structure or in nonconforming cases, approved by a qualified structural engineer. See Area-Specific Requirements and Capacity Limits starting on page 7.
- Point loads indicated on rigging documents must include the weight of all equipment.
- Considerations must be given to the physical nature of any load with potential for dynamic loading.
- The behavior of determinate and indeterminate rigging systems must be considered in the rigging design.

## 4. Rigging Installation

### *4a. General Requirements*

- All rigging installations must comply with the requirements as outlined in this document and use approved rated and stamped hardware.
- Methods of access for work at height, fall protection systems and rescue must be designed by a qualified person and deemed to be adequate for the proposed work.
- Crew and equipment requirements must be determined and agreed upon prior to the commencement of work.
- Venue and temporary electrical service locations and capacities must be verified as adequate for the proposed design.
- Suspension points do not include light fixtures, sprinkler heads, conduit, HVAC ducts, or any other facility fixtures not specified below.

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- SCC will charge the rigging contractor or facility client for any costs associated with damage caused by faulty, unapproved, or incorrect rigging installations.
- Any rigging that is not approved in advance may be subject to immediate removal at the expense of the facility client or their contractor.

### 4b. Ground-Supported Rigging

- Free-standing items may not obstruct exit aisles, doorways, exit lights, AED devices, fire alarm pull boxes, fire exits, fire hose cabinets, fire extinguishers, or service access.
- Support legs must be positioned, marked or otherwise protected to avoid trip hazards.
- Certified riggers may be required for ground supported rigging.

### 4c. Installations Requiring a Certified Rigger

The information below is provided as a summary of common objects and apparatus that SCC requires a certified rigger to install. Each event may have special needs that cannot be addressed specifically in this document. Please consult your EM if you have questions.

### **Aerial Rigging:**

#### **Signage & Banners:**

- Individual vinyl / foam core signs or banners (over 100 lbs.)
- Ceiling-hung rigid framed signs or displays (over 100 lbs.)
- Bridle or side load signage rigging (all weights).
- Ceiling-hung motorized/rotating signs (all weights).
- Chain hoists or powered devices used to hang signage (all weights).
- Venue-approved air wall (operable wall) track hangers and all attached components (all weights).
- Any signage secured by means of beam clamp (all weights).

#### **Lights, Sound, Projection, Props, Equipment, & Drapery:**

- Bridle or side-load rigging (all weights).
- Ceiling-hung props or decorations (over 25 lbs.)
- Ceiling-hung truss - hoist, sling, choker, cable, basket, span set, and beam clamp point connections or other rigging hardware attached to building or truss. (all weights).
- Catwalk-hung lighting, sound, projection, props secured by means of built-in clamp (over 25 lbs.)
- Venue-approved operable wall track hangers and all attached components (all weights).
- Attachment of all objects to truss by means of cable, sling, span set, wire, rope, shackle or other non-clamping device (over 25 lbs.)
- Items secured to truss (while on ground), by means of clamp (over 25 lbs.)

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- Soft goods hardware with live loads, such as pulleys and traveler tracks (all weights).
- Any object that requires the use of a ladder or lift to attach to a truss, rigging bar or other apparatus after it has been flown (all weights).

### *Ground Supported Rigging:*

- Lighting, sound, projection, or other equipment hung with a trimmed height greater than 12 feet, that are attached to a load-bearing apparatus by means of cable, sling, span set, wire, rope, shackle or other non-clamping device (over 25 lbs.)
- Items secured to truss (while on ground), by means of clamp (over 25 lbs.)
- Items attached to ground supported system that require the use of a lift or ladder (all weights).
- All ground supported installations with a trim height greater than 12 feet must be inspected and approved by a certified rigger, even if no individual component exceeds the weights limits described above.
- SCC does not require the use of certified riggers for the on-ground transport or assembly of equipment associated with rigging installations, such as truss, signage framing or props.

### *4d. Certified Rigger Requirements*

The Entertainment Technician Certification Program (ETCP) is an industry-wide program created by the Entertainment Services and Technology Association (ESTA). ETCP certification focuses on installation activities that directly affect the health and safety of crews, performers, and audiences, and requires compliance with OSHA and other laws. ETCP certified riggers have met experience and training eligibility requirements and passed rigorous testing to ensure proper installation of rigging to temporarily suspend objects from overhead structures in any environment. More information on ETCP certification requirements can be found at [etcp.esta.org](http://etcp.esta.org) or by contacting the SCC Director of Event Services.

Any rigging at SCC, either ground supported or aerial, must be installed by ETCP certified riggers. An ETCP certified rigger must be identified by the liable service provider as the Rigging Supervisor for all installations. This Rigging Supervisor must submit inspection and approval documents assuring that all rigging for each event, whether aerial or ground supported, is installed in a safe and effective manner, meeting all requirements, policies and procedures of SCC. This Rigging Supervisor must be on SCC's approved rigger list, and must submit a signed acknowledgement of compliance with SCC rigging rules and regulations.

Certified riggers may be employed by service contractors authorized by the event license holder or secured from labor organizations that are signatories to the SCC Labor Council Agreement. All service providers and labor organizations must submit their ETCP certified rigger documentation to the SCC designated representative at least one week prior to working in the facility. This documentation will be by mail or email and verified through the online ETCP portal.

Once an individual has been accepted on the SCC's approved list of certified riggers, it is not necessary to re-submit documentation unless the certification expiration date passes. For the purpose of training apprentice riggers to accumulate the necessary hours required to apply for ETCP rigging certification, contractors may utilize one non-certified rigging technician per three ETCP certified riggers on the same call. ETCP certified riggers must review and certify all work performed during training and apprenticeship periods.

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Upon arrival at SCC for rigging duty, certified riggers must show identification and be on the approved ETCP rigger list. SCC designated representatives will issue the rigger a specific wristband that allows performance of rigging installations within the facility. Any rigger who is not visibly wearing the appropriate wristband will be required to immediately stop working and will be asked to go to SCC designated representatives for verification. Repeat offenses of rigging without a visible wristband will be cause for permanent removal from the approved list.

## 5. Area-Specific Requirements and Capacity Limits

### *Arch at 705 Pike:*

#### *Ballrooms 6ABCE (Level 6):*

- Encore is the exclusive provider of ballroom aerial rigging services. This includes labor, chain motor rental, span sets required to attach client truss systems to Encore chain motors, operable track hangers and rigging hardware required for the attachment of lighting, projection, sound or decorative elements to the fixed ceiling rigging grid.
- All qualified audiovisual contractors may assemble truss systems as well as attach lighting, sound and projection equipment to truss system.
- An Encore technician is required to control (raise or lower) chain motors at all times.
- All qualified audiovisual contractors may assemble and construct ground supported systems in the Ballroom spaces.
- Heavy Load Points: Load limit is 1,000 lbs. per point. No bridling allowed.
- Operable wall tracks: Load limit is 100 lbs. per hanger. Minimum distance between points is four feet.
- Soffits: Load limit is 40 lbs. per hanger.
- Rigging is not allowed from any other facility element not listed above.

#### *Exhibit Halls 4ABC:*

- Rigging in Exhibit Halls 4ABC requires that all hang-points have a 360 degree wrap of protection around the fireproofed structural trusses, and are clear of all sprinkler heads, wireless access points, and lighting structures.
- Beams: Load limit from bottom chord truss is 1,600 lbs. per point. Minimum distance between points is four feet. Hanging from bottom chord truss may bridle at no more than 45 degrees.
- Purlines (spreaders between beams): Hanging from purlines must be a dead hang (vertical) only. Load limit from purlines is 200 lbs. per point. Minimum distance between points is four feet.
- Catwalk: Hanging from catwalks must be a dead hang only. Load limit from catwalks is 200 lbs. per hanger. Minimum distance between hangers is 25 feet. Maximum of three hangers per 100 feet.
- Airwall Tracks: Hanging from an airwall track must be a dead hang, and with approved hanging devices only. Load limit from airwall tracks is 200 lbs. per point. Minimum distance between points is four feet.
- Rigging is not allowed from any fixtures not listed above.
- Rigging is not allowed from the high steel without prior approval.
- Rigging is not allowed from vertical cross members between top and bottom chord truss.
- Beam insulation may not be removed. Damage to insulation will be billed at \$125 per point to the client or contractor.

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### *Exhibit Hall 4D (Skybridge):*

- The structural tubes are the only elements available for any significant rigging loads. All installations must have a protective wrap of carpet around the structural tube(s) to shield it from the rigging gear.
- Structural tubing: Load limit is 2,500 lbs. per point. Minimum distance between points is 30 feet. Maximum weight per truss line is 7,500 lbs.
- Lighting cables: Minimal hanging of banners or other lightweight décor may be allowed with specific advance approval of the EM. Load limit is 25 lbs. per item. Maximum of three items per light cable.
- Rigging is not allowed that will obstruct the HVAC vents.
- Movement of permanently installed theatrical lighting units is not permitted.

### *Exhibit Halls 4EF:*

- Rigging in Exhibit Halls 4EF requires that all hang-points have a 360 degree wrap of protection around the structural trusses, and are clear of all sprinkler heads, wireless access points and lighting structures.
- Use of the rigging access panels at the entrance to Hall 4E will incur a usage fee.
- Main truss (runs north/south): Load limit is 2,500 lbs. per point. Minimum distance between points is 30 feet. Maximum weight per truss line is 20,000 lbs. Rigging is only allowed from the bottom chord of the truss line.
- Truss bracing (runs east/west): Load limit is 2,500 lbs. per point. Minimum distance between points is 30 feet. Maximum weight per brace line is 20,000 lbs. Rigging is only allowed from the bottom chord of the truss line.
- Catwalk: Hanging from catwalks must be a dead hang only. Load limit from catwalks is 200 lbs. per hanger. Minimum distance between hangers is 25 feet. Maximum of three hangers per 100 feet.
- Airwall tracks: Hanging from an airwall track must be a dead hang, and with approved hanging devices only. Load limit from airwall tracks is 200 lbs. per point. Minimum distance between points is four feet. Rigging from airwall tracks shall be with approved hangers only.
- Rigging is not allowed from vertical steel or diagonal bracing.
- Rigging is not allowed from the high steel without prior approval.
- Rigging is not allowed that exceeds a total of 2,500 lbs. on a truss and adjacent brace. Loads must be a full section apart.

### *Lobbies and Public Areas:*

- Banners may be suspended above escalators from the glass handrails, provided they are affixed at the base of the handrail and allow for a minimum clearance of nine feet above the escalators.
- Permanently installed rails with adjustable hanging loops are provided on the north Levels 2, 3, and 4 for installation of banners.
- Eye bolts are installed on the Grand Escalator wall in the Atrium Lobby for banner placement.
- No rigging is allowed on Level 1.
- No commercial or sponsorship signage or banners are allowed in lobbies or public areas without advance approval of the EM. Signage fees may apply.

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### *Meeting Rooms and Hallways:*

There are no weight bearing points in meeting rooms or hallways.

### *Arch at 800 Pike:*

- Tahoma Level: There are 150 permanently installed rigging points located throughout the floor. These points are provided by eyebolts installed every 15 feet on the steel beams. Maximum weight is 1,000 lbs. per point. There is no limit on how many points may be used simultaneously.
- Skagit, Chelan, Yakima Levels: There are no weight bearing points in meeting rooms or hallways on these levels.
- Encore must provide and install airwall track hangers. Maximum weight is 100 lbs. per hanger.
- Rigging is not allowed from steel beams.

### *Summit:*

#### *Exhibit Hall*

- Load limit for the rigging points on the steel framing is 2,500 lbs.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.
- The indicated loads are assumed to be static loads. The load rating shall be reduced as necessary for application of dynamic loads.
- The maximum non-vertical load is 40% of the maximum vertical load at a maximum angle of 45 degrees.

#### *Flex Hall*

- Load limit for the rigging points on the steel framing is 2,500 lbs. Minimum distance between points is 15 feet.
- Maximum weight is 1,000 lbs. per point grouped inside the dotted lines indicated on the rigging map.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.
- The indicated loads are assumed to be static loads. The load rating shall be reduced as necessary for application of dynamic loads.
- The maximum non-vertical load is 40% of the maximum vertical load at a maximum angle of 45 degrees.

#### *Summit Lobby*

- Maximum rigging load is 2,500 lbs. which are grouped inside the dotted lines indicated on the rigging map.
- Each rigging point is 1,000 lbs. Minimum distance between points is 15 feet.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.
- The indicated loads are assumed to be static loads. The load rating shall be reduced as necessary for application of dynamic loads.
- The maximum non-vertical load is 40% of the maximum vertical load at a maximum angle of 45 degrees.



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### *Level 3*

- Each rigging point is 1,000 lbs. Minimum distance between points is 15 feet.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.
- The indicated loads are assumed to be static loads. The load rating shall be reduced as necessary for application of dynamic loads.
- The maximum non-vertical load is 40% of the maximum vertical load at a maximum angle of 45 degrees.

### *Level 4*

- Each rigging point is 1,000 lbs. Minimum distance between points is 15 feet.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.

### *Summit Ballroom*

- Encore is the exclusive provider of ballroom aerial rigging services. This includes labor, chain motor rental, span sets required to attach client truss systems to Encore chain motors, operable track hangers and rigging hardware required for the attachment of lighting, projection, sound or decorative elements to the fixed ceiling rigging grid.
- Load limit for the rigging points on the steel framing is 2,500 lbs. Minimum distance between points is 15 feet.
- Maximum weight is 1,000 lbs. per point grouped inside the dotted lines indicated on the rigging map.
- The primary structure is designed to support all the indicated rigging loads simultaneously.
- The indicated rigging loads are vertical.
- The indicated loads are assumed to be static loads. The load rating shall be reduced as necessary for application of dynamic loads.
- The maximum non-vertical load is 40% of the maximum vertical load at a maximum angle of 45 degrees.