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*Juliann Sum, Chief*

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Via email: [ssample@hksinc.com](mailto:ssample@hksinc.com)  
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RE: Guardrail Heights for Stadium Seating Areas

Dear Mr. Sample

I am writing in response to your request regarding minimum guardrail heights in tiered and non-tiered seating areas of stadiums. Guardrail requirements to protect employees from falls at elevated locations are provided in the Title 8 California Code of Regulations.

### **1. Tiered Seating Areas in Stadiums**

Title 8 section 3239 contains requirements for guardrail heights for "reviewing stands, grandstands and bleachers" as follows:

Title 8 §3239. Reviewing Stands, Grandstands, and Bleachers.  
 For design, use and construction of reviewing stands, grandstands and bleachers refer to Section 3321 of the Uniform Building Code (UBC), 1979 Edition.

Tiered seating areas in stadiums are grandstands as defined by section 3321 of the 1979 edition of the Uniform Building Code (UBC) referenced by Title 8 section 3239. The UBC defines grandstands as "tiered or stepped seating facilities wherein an area of more than 3 square feet is provided for each person." Additional provisions of UBC section 3321 specify that grandstands can be contained within buildings and are contemplated to contain sections which can seat in excess of 3,000 people.

Therefore, guardrails in tiered seating areas of stadiums are covered by Title 8 section 3239 and must meet the following UBC section 3321 requirements:

1979 UBC §3321. Reviewing Stands, Grandstands and Bleachers  
 \* \* \* \* \*  
 (e) General Requirements.  
 \* \* \* \* \*

7. Guardrails. Perimeter guardrails or enclosing walls or fencing shall be provided for all portions of elevated seating facilities which are more than 30 inches above grade or floor. Construction of guardrails shall comply with Section 1716 and Table No. 23-B. Guardrails shall be 42 inches above the rear of a seat board or 42 inches above the rear of the steps in an aisle when the guardrail is parallel and adjacent to the aisle.

EXCEPTION: Guardrails at the front of the front row of seats, which are not located at the end of an aisle and where there is no cross aisle, may have a height of 30 inches and need not meet the 9-inch maximum spacing specified in Section 1716; however, a midrail shall be installed.

The open vertical space between footboards and seats shall not exceed 9 inches when footboards are more than 30 inches above grade.

\* \* \* \* \*

Thus, for tiered stadium seating areas higher than 30 inches above grade:

- Guardrails located in front of the first row of seats must be at least 30 inches in height.
- Guardrails not located in front of the first row of seats must be at least 42 inches in height.
- Midrails or equivalent must be installed on all guardrails, as required by UBC section 1716.

## 2. Non-tiered Seating Areas in Stadiums

Non-tiered seating areas are not a reviewing stand, grandstand or bleacher as defined in the UBC section 3231 referenced by Title 8 section 3239. As a result, all non-tiered seating areas in stadiums must meet the following requirements of Title 8 section 3210:

Title 8 §3210. Guardrails at Elevated Locations.

(a) Buildings. Guardrails shall be provided on all open sides of unenclosed elevated work locations, such as: roof openings, open and glazed sides of landings, balconies or porches, platforms, runways, ramps, or working levels more than 30 inches above the floor, ground, or other working areas of a building as defined in Section 3207 of the General Industry Safety Orders. Where overhead clearance prohibits installation of a 42-inch guardrail, a lower rail or rails shall be installed. The railing shall be provided with a toeboard where the platform, runway, or ramp is 6 feet or more above places where employees normally work or pass and the lack of a toeboard could create a hazard from falling tools, material, or equipment.

EXCEPTIONS:

\* \* \* \* \*

9. Theatre galleries, balconies, or other such elevated seating locations, where a 42-inch railing would obstruct the sight lines, may be protected by a guardrail or other barrier of not less than 34 inches in height provided that a horizontal concave safety ledge not less than 6 inches in depth and not less than 36 inches in effective width is installed beyond the railing at the balcony floor level. The safety ledge shall be designed to carry a live load of 100 pounds per square foot.

\* \* \* \* \*

Thus, for non-tiered stadium seating areas higher than 30 inches above grade:

- Guardrails that would obstruct sight lines must be at least 34 inches in height provided a safety ledge as described in Title 8 section 3210(a) exception 9 is installed.
- All other guardrails that do not obstruct sight lines must be at least 42 inches in height.

In addition, midrails or equivalent must be installed on all guardrails, as required by Title 8 section 3209.

Sincerely,



Eric Berg  
Deputy Chief  
Research and Standards