

Owner / Applicant Information

Matthew Wood  
CA/Regency Dunhill JV LLC  
130 E Randolph St  
  
Chicago IL 60601  
Phone 8478041275  
Email mwood@ca-studentliving.com

Submitter Information

Marvin Christman  
Otis Elevator Company  
6010 Corporate Way  
  
Indianapolis IN  
  
Phone 3173472015  
Email marvind.christman@otis.com

Designer Information

G Niles Bolton  
Niles Bolton Associates  
3060 Peachtree RD NW  
  
Atlanta GA  
  
Phone 4043657600  
Email nbolton@nilesbolton.com

Project Information

Evolve Bloomington Bldg 100 200 and Parking  
1421 N Dunn St

BLOOMINGTON IN 47408

County MONROE

Project Type New ☒ Y Addition ☐ Alteration ☐ Existing ☐ Change of Occupancy ☐

Project Status ☒ F F=Filed U or Null=Unfiled

IDHS Issued Correction order? ☒ No Has Violation been Issued? ☒ No

Violation Issued by: NA

Local Building Official

Phone:  Email:

Local Fire Official

Phone:  Email:

### Variance Details

Code Name: Other Code (Not in the list provided)

ASME A17.1-2007yr 2.20.1

Conditions: 2.20.1 Suspension Means  
Steel Coated Belts (Suspension Means)  
Otis machine number 643587 thru 643592 will utilize Steel Coated Belts as the suspension means. Seven (7) Elevators total.

#### DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

1=Non-compliance with the rule will not be adverse to the public health, safety or w

☐ 1

2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts: 1) All aspects of the belts, terminations and monitoring system are fully compliant with the ASME A17.1-2010 edition of the code.  
2) Otis will install a permanent belt monitoring device on this GEN2 elevator.

#### DEMONSTRATION OF UNDUE HARDSHIP OR HISTORICALLY SIGNIFICANT STRUCTURE:

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Imposition of the rule would result in an undue hardship (unusual difficulty) because of physical limitations of the construction site or its utility services.

☐

Imposition of the rule would result in an undue hardship (unusual difficulty) because of major operational problems in the use of the building or structure.

☒

Imposition of the rule would result in an undue hardship (unusual difficulty) because of excessive costs of additional or altered construction elements.

☐

Imposition of the rule would prevent the preservation of an architecturally or a historically significant part of the building or structure

Facts: Coated Steel Belts are an essential component of the Otis machine-roomless configuration of the GEN2 traction elevator. The belt allows for the use of a much smaller diameter drive sheave. The GEN2 machine-roomless system could not be reconfigured to use steel cables. Changing to an overhead traction machine would add significant costs to the elevator and building construction. The elevator cost would increase over 30%, and the building would require the construction of an overhead penthouse.

Variance Details

Code Name: Other Code (Not in the list provided)  
ASME A17.1-2007yr 2.18.5.1

Conditions: Governor Rope Diameter  
This GEN2 installation will utilize a 6.3 mm (1/4") diameter governor rope.  
This project will consist of seven (7) GEN2 elevators. Otis machine numbers 643587 thru 643592.

DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

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2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts: The 6.3 mm (1/4") rope is covered under the ASME A17.1-2010/CSA B44-2010 Code. Otis has also obtained AECO approval for the component for those Jurisdictions that have not currently upgraded to the latest Code.

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Facts: The GEN2 underslung product has only been designed to accommodate the use of a 6.3 mm (1/4") governor rope. It would not be possible to utilize a 3/8" governor rope on this system. Switching to a different product type to accommodate the governor rope would add over 40% to the elevator cost.

Variance Details

Code Name: Other Code (Not in the list provided)  
ASME A17.1-2007yr 2.22.1.1

Conditions: 2.22.1.1 Type of Buffers  
For the use of ACLA buffers in place of spring buffers.  
  
There are seven (7) GEN2 elevators on this project. Otis machine numbers 643587 thru 643592.

DEMONSTRATION THAT PUBLIC HEALTH, SAFETY, AND WELFARE ARE PROTECTED:

1=Non-compliance with the rule will not be adverse to the public health, safety or w

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2= Applicant will undertake alternative actions in lieu of compliance with the rule to ensure that granting of the variance will not be adverse to public health, safety, or welfare. Explain why alternative actions would be adequate (be specific).

Facts: 1) ACLA has had the buffers approved under the A17.7 Code by the Lift Institute. Based on the AECO approval of the ACLA buffers, Otis is requesting a variance of the buffer under the "or equivalent" wording in the Code. The speed of the elevator at 200 feet per minute and less

does not utilize "C" type safeties as described in 2.22.1.1.1 and 2.22.1.3.

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Imposition of the rule would result in an undue hardship (unusual difficulty) because of excessive costs of additional or altered construction elements.

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Imposition of the rule would prevent the preservation of an architecturally or a historically significant part of the building or structure

Facts:

Otis has made a significant engineering investment in applying GEN2 machine-roomless technology at the car speeds and rises typically associated with hydraulic elevator applications. The use of the ACLA buffer at speeds of 200 feet per minute and less is one of the ways engineering has provided an equivalent product to the spring buffer and also reduce the overall cost to the building owner.