Owner / Applicant Information

Yuliana Mendez
Baxter Pharmaceutical Solutions, LLC dba Simtra BioPharma Solutions
927 SOUTH CURRY PIKE

BLOOMINGTON IN 47403

Phone 8154053291

Email YMENDEZ@SIMTRA.COM

Submitter Information

Marvin Christman
Otis Elevator Company
6010 Corporate Way

Indianapolis IN

Phone 8122190986

Email marvind.christman@otis.com

Designer Information

Magdalena Krapf
Jacobs Wyper Architects
1232 Chancellor St

Philadelphia PA

Phone 2159850400

Email mkrapf@jacobswyper.com

Project Information

Simtra Project Green Light Building H
927 S Curry Pike

BLOOMINGTON IN 47403

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: 8123492581 Email: blarue@co.monroe.in.us

Local Fire Official

Phone: 8123492581 Email: admin@monroefd.org

Variance Details

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

ASME A17.1-2007 - 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 two GEN3 elevators on this project. Otis machine numbers N1GM27 and N1GM28.

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) 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.

DEMONSTRATION OF UNDUE HARDSHIP OR HISTORICALLY SIGNIFICANT STRUCTURE:

[ ] 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.

[Y] 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:

Otis has made a significant engineering investment in applying GEN3 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.

Variance Details

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

ASME A17.1 - 2.18.5.1

Conditions:

Governor Rope Diameter
This GEN3 installation will utilize a 6.3 mm (1/4") diameter governor rope.
This project will consist of two (2) GEN2 elevators. Otis machine numbers N1GM27 and N1GM28.

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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 GEN3 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 A17.1-2007 - 2.18.4.2.5

Conditions:

At car speeds of 200 FPM and 350 FPM Otis utilizes as alternate technology for providing a speed reducing switch required by ASME A17.1 section 2.18.4.2.5.

Otis is using the 3rd channel (C channel) on the main encoder to provide this input into the control algorithms. The A and B channels of the encoder are used for primary/ secondary position and speed for the control system. The ¿C¿ channel is utilized presently as a redundant check for the A and B channels and as an independent speed methodology to provide the ETSD (2.25.4.2) function, A17 required. The ETSD input is a designated electrical protective device.
The manual reset will be provided via the same reset switch as the uncontrolled motion reset switch.

There are two (2) GEN3 elevators on this project. Otis machine numbers N1GM27 and N1GM28.

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Facts: The Gen 3 at 200 system is designed to be compliant with A17.1 ¿ 2007 with exception of components such as the alternate speed reducing switch technology which has A17.7 (AECO) approval.

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Facts: The speed reducing switch is essentially to being able to use the GEN3 machine-roomless technology. An overhead traction elevator could add an additional 50% to the overall cost of the elevator system.

Variance Details

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

ASME A17.1-2007 - 2.20.1

Conditions:

2.20.1 Suspension Means
Steel Coated Belts (Suspension Means)
Otis machine number N1GM27 will utilize (4) 43kN Steel Coated Belts as the suspension means.
Otis machine number N1GM28 will utilize (4) 64kN Steel Coated Belts as the suspension means.

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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 GEN3 elevator.

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Facts:

Coated Steel Belts are an essential component of the Otis machine-roomless configuration of the GEN3 traction elevator. The belt allows for the use of a much smaller diameter drive sheave. The GEN3 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.