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Elevator Safety Program
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April 01, 2003

ELEVATOR SAFETY PROGRAM
CODE INTERPRETATION

OR-2003-001

Applies to all existing installations.

Subject: Escalators used as a Stairway
Rule No: ASME A17.1, Section 6.1
ASME Interp: N/A
Effective: April 01, 2003

Question: Should an escalator be used as a stairway when the unit is not operating?

The Elevator Safety Code is silent on this issue.

The following matrix indicates the standards that are required by NFPA 101 and the building code for dimensions for stairs in buildings.

Stairway Feature	OSSC Building Code	NFPA 101 Life Safety Code	ASME A17.1 Escalator
Width	44 in. minimum	44 in. minimum	40 in. maximum
Reduced width w/occupancy less than 50	36 in. minimum	36 in. minimum	22 in. minimum
Step Rise	4-7 in. (min.-max.)	7½ - 8 in.	8½ in. maximum ¹
Step Run	11 in. minimum	9 – 10 in. minimum	15¾ in. maximum
Landings	12 ft. maximum between landings	12 ft. maximum between landings	Landings are not available between building floors
Handrail Height	34-38 in.	N/A	35-39 in. maximum
Handrail Width	ADA compliant	ADA compliant	Special shape for escalator handrail
Slope	Not defined	Not defined	30 deg (± 1°)

Observations:

1. Note that all escalator code requirements except the step-run and the slope are not likely to allow an escalator to comply with the requirements for a stairway. Escalator width can range from a 22 in. to a 40 in. and thus will be less than the required stair width in most cases.
2. Typical escalator step rise is 8½ in. Thus, the step-rise is likely to be greater than allowed by the building code or NFPA 101 for a stair.
3. Landings are required at every 12 ft of rise on a stair. It is possible for the rise of an escalator to exceed 12 ft. and it is not possible to provide an appropriate landing on an escalator at 12 ft. intervals.
4. Handrail heights overlap, but there is the possibility that the escalator handrail height could exceed the maximum allowed for stairs.
5. An escalator handrail is not intended to be ADA compliant due to the design characteristics of an escalator.
6. The steps at the upper and lower ends of an escalator will not have uniform rise in the step and this creates a potential fall hazard.

¹ Note: escalator steps are not uniform in rise throughout the entire travel of the steps.

Conclusion:

Due to the incongruities between the requirements for stairs and escalators, an escalator shall ***not*** be used as a substitute for a stairway.

Questions may be directed to (503) 373-1298.

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