

**Oregon
Interpretive Ruling No. 00-14**

AUTOMATIC FIRE SPRINKLER SYSTEMS IN GROUP E OCCUPANCIES

REQUESTED BY: Richard Rogers
Blazer Industries, Inc.

REQUEST FOR RULING:

1. Is the intent of 1998 Oregon Structural Specialty Code (OSSC), Section 904.2.4.1, Exception 2, to exempt buildings containing Group E, Division 1 Occupancies, from the fire sprinkler requirements, when such buildings are 20,000 square feet or less in area?
2. Is it the intent of OSSC Section 904.2.4.1, Exception 2, to subdivide a use group E, Division 1 building into separate compartments approximately equal in size (not greater than 20,000 square feet) to exempt them from the fire sprinkler requirements?

APPLICABLE CODE SECTIONS:

- Section 904.2.4.1 of the 1998 Oregon Structural Specialty Code
- Section 904.2.4.1 of the 1996 Oregon Structural Specialty Code
- Section 903.2.2 of the 2000 International Building Code (IBC)

BACKGROUND: Uniform Building Code editions prior to 1994 required sprinklers only in selected areas of a Group E Occupancy, namely basements and enclosed usable space under or above a stairway. With the 1994 UBC, the sprinkler requirements for educational occupancies went through a major change. In the 1994 UBC, a requirement to provide an automatic sprinkler system throughout Group E, Division 1 occupancies was added to address the problem created by the increasing number of school fires. A couple of exceptions permitted Group E, Division 1 occupancies to not provide automatic sprinklers. The first exception permitted the omission when the building has direct exterior exits from each classroom at the ground level. The second exception allows the omission of the sprinklers when the building is divided into approximately equal area compartments (not greater than 20,000 square feet) by area separation or occupancy separation walls of minimum two-hour fire-resistance rating. These requirements remained the same in the 1997 edition of the UBC.

Section 903.2.2 of the 2000 IBC (not adopted by Oregon) requires that an automatic fire sprinkler system shall be provided in all Group E Occupancies greater than 20,060 square feet in area, with an exception for ground level exterior exit doors from the class rooms. There is a shift in the 2000 IBC requirements for Group E Occupancies from the previous code requirements.

The International Conference of Building Officials (ICBO) has issued, in the past, their position on the intent of Section 904.2.4.1, Exception 2 OSSC. Per ICBO, a Group E, Division 1

Occupancy shall be provided with an automatic sprinkler system irrespective of the area of the building (exceptions excluded). Per ICBO, provisions of Exception 2 are applicable only when a Group E Occupancy building has been provided with compartments. The area of compartments in such cases can be a maximum of 20,000 square feet if Exception 2 provisions are to be used. If a building does not have compartments, then the provisions of Exception 2 are not applicable.

Building officials throughout the state have been interpreting and enforcing the provisions of Section 904.2.4.1, Exception 2, differently. Some have followed ICBO's interpretation, while others have taken the position that the language of Section 903.2.2, 2000 IBC has endeavored to clarify (E Occupancies less than 20,000 square feet do not need sprinkler systems). Since an apparent conflict exists in code interpretation, a need exists to provide interpretation of the pertinent OSSC sections for uniform and consistent application of the code exists.

FINDINGS:

1. In schools where the ground level exterior exit doors from classrooms cannot be provided because of its area and design, the OSSC requires that the maximum size of the compartments (of approximate equal size) be limited to 20,000 square feet for exemption from the fire-sprinkler requirements.
2. Creation of compartments (by two-hour area separation walls) helps delay the spread of fire from its point of origin to other portions of the building and thus helps, consequently, in the safe exiting of the occupants of other portions of the building.
3. A school of 20,000 square feet in area will not expose the occupants to any greater risk than a school of 40,000 square feet that is divided into two 20,000 square foot compartments.
4. The 2000 IBC, although not adopted by the state of Oregon, does not require an automatic fire sprinkler system in a Group E Occupancy less than 20,000 square feet in area.
5. The 2000 IBC provision brings clarity to the intent of OSSC Section 904.2.4.1, Exception 2.

CONCLUSION: The 1998 OSSC, Section 904.2.4.1, Exception 2 is interpreted to mean that, unless otherwise required by the code, an automatic fire sprinkler system is not required in a Group E, Division 1 Occupancy if the area of such a building is less than 20,000 square feet.

The Building Codes Structures Board accepts the recommendations of the Structural Code Committee and the findings listed.

(signed August 2, 2000)

John A. Talbott, P.E. Chairman
Building Codes Structures Board

The recommendations and findings of the Building Codes Structures Board are accepted and the interpretation is adopted for uniform statewide application and use.

(signed August 2, 2000)

Joan M. Fraser for
Joseph A. Brewer III, Administrator
Building Codes Division