OREGON
Interpretive Ruling No. 93-77
ATTACHING GLASS STRUCTURES TO DWELLINGS
(revised 05/05/00, editorial only)

REQUESTED BY: PPPI Manual Review Committee

QUESTION: Request an interpretation of the code requirements when attaching glass solar structures to dwellings.

APPLICABLE CODE SECTIONS: One and Two Family Dwelling Specialty Code (Dwelling Code), Sections 301, 303.5, 308 and 310.

BACKGROUND:
Glass-walled compartments facing the sun, commonly called "greenhouses" and/or "solariums". There is considerable misunderstanding on how the code addresses these structures. A "greenhouse-effect" structure does not require the growing of plants.

Greenhouse-effect: When sunlight passes through glass and is absorbed by a surface, it changes wavelengths and will not pass back out through the glass. Therefore, such an enclosure accumulates heat.

Without adequate knowledge and planning, serious code problems can arise when installing solar units. Some of these are: (1) covering bedroom emergency egress windows; (2) blocking of required exits; (3) closing off required light and ventilation; (4) closing off foundation vents; (5) constructing and using the unit as a solarium which may lose more heat at night than is gained during the day; (6) using glass which does not meet the requirements of Section 308; and (7) ignoring roof live loads (snow and ice).

FINDINGS:
This interpretation is authorized by ORS 455.060, Rulings on Acceptability of Materials, Designs or Methods of Construction and Attorney General's Opinion OP-5208 issued October 1, 1981, which advised the statute permits authoritative interpretations of existing code requirements.

DISCUSSION & CONCLUSION:
The SCAB (BCSB) rules by interpretation that, when attached, glass solar units are made part of an R-3 occupancy:
1. Solar units shall not be constructed around required emergency egress windows.
2. Solar units shall not impair ***required*** exits.
3. Construction of a clear glass solar unit does not impair the required window area for natural light. However, it may impair the natural ventilation requirements providing ventilation is provided by installing closable, manually operated openings in the solar unit, sized adequately to meet the required room ventilation adding another window elsewhere in the room; or installing mechanical ventilation when openings in the addition are used, the adjoining wall must meet the requirements of Section 303.2.
4. Solar units shall not cover crawl space foundation vents unless compensating vents are added elsewhere in the foundation wall.
5. A solarium that is open to the habitable space is considered part of the exterior envelope and must comply with Section E-401.
6. All glass used in walls must meet the requirements of Section 308.
7. All glass used in roofs shall meet the requirements of Sections 308 & 301.
8. Greenhouse-effect structures are part of the R-3 occupancies and do not qualify as a U-1 occupancies requiring an occupancy separation unless the greenhouse structure is used for purposes defined in U-1 occupancy (see Appendix Chapter 3, in the Oregon Structural Specialty Code for U-1 agricultural building occupancy.). A glass structure attached to an R-3 occupancy to grow plants for the pleasure of the dwelling occupants is ***not*** an agricultural building.

(signed November 17, 1993)
John Talbott
Structural Code Advisory Board

Date

The recommendations and findings of the Structural Code Advisory Board are accepted and the conclusions are adopted.

(signed November 19, 1993)
Gary Wicks, Administrator
Building Codes Division

Date