

Media advisory, Media advisory, full-scale seismic test for earthquake resistance in Charles Lee Powell Structural Systems Laboratory on October 15

October 6, 1992

MEDIA ADVISORY

EVENT: A 5-story reinforced masonry building, housed inside the Charles Lee Powell Structural Systems Laboratory at UCSD, has been undergoing the first, full-scale seismic test for earthquake resistance.

DATE: Thursday, October 15, 1992

TIME: 10 a.m. to 11 a.m.

LOCATION: Charles Lee Powell Structural Systems Laboratory on the campus of the University of California, San Diego.

PROGRAM: Researchers will describe the experiment and results to date.

The object of this full-scale building test is to experimentally verify a new design, and analyze methodology for satisfactory performance, of reinforced masonry structures under severe seismic loading conditions. During the experiment, the laboratory system has acted as a giant earthquake simulator.

The experiment, which began in July, is performed using state-of-the-art, on-line, interactive computer techniques in which each floor of the five-story building is subjected to displacements in a manner that simulates an actual earthquake. This complex task is accomplished with the aid of ten 100-ton hydraulic actuators. More than 500 instrument probes are attached to the test structure to assess damage resulting from the seismic events.

After completion of the experiment this month, a new and novel approach to repair the structure will be tested with certain advanced composite materials developed by the Department of Defense for military purposes. If the technique is successful, it will lead to an economically feasible method for testing a wide class of buildings damaged in earthquakes, and for upgrading existing buildings to today's earthquake standards.

INTERVIEWS AND VISUALS: The experiment's principal investigators will be present to answer questions from the media. These include:

Gilbert Hegemier, Professor of Applied Mechanics and Director of the Powell Laboratory; Frieder Seible, Professor of Structural Engineering; Associate Director of the Powell Laboratory and Project Manager; M. J. Nigel Priestley, Professor of Structural Engineering Mechanics.

The structure has undergone significant damage only at select locations, including cracking and flaking of concrete on the floor slabs at the door locations and first-story walls. Minor damage also can be seen around door sills.

For further information, please contact Warren R. Froelich with University Communications, (619) 534-8564.

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