

COMMITTEE ON CAMPUS PLANNING, BUILDINGS AND GROUNDS

California State University Seismic Review Board Annual Report

Presentation By

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Summary

This information item presents the CSU Seismic Review Board Annual Report.

Seismic Policy and Review Board

The California State University has addressed the seismic hazard posed by its buildings and is in the process of completing their mitigation. In 1993, the CSU Board of Trustees adopted the following policy:

It is the policy of the Board of Trustees of the California State University, that to the maximum extent feasible by present earthquake engineering practice, to acquire, build, maintain, and rehabilitate buildings and other facilities that provide an acceptable level of earthquake safety for students, employees, and the public who occupy these buildings and other facilities at all locations where CSU operations and activities occur. The standard for new construction is that it meets the life-safety and seismic hazard objectives of the pertinent provisions of Title 24 of the California Code of Regulations; the standard for existing construction is that it provides reasonable life-safety protection, consistent with that for typical new buildings. The California State University shall cause to be performed independent technical peer reviews of the seismic aspects of all construction projects from their design initiation, including both new construction and remodeling, for conformance to good seismic resistant practices consistent with this policy. The feasibility of all construction projects shall include seismic safety implications and shall be determined by weighing the practicality and cost of protective measures against the severity and probability of injury resulting from seismic occurrences. [Approved by the Board of Trustees of the California State University at its May 19, 1993 meeting (RCPBG 05-93-13).]

CSU initiated the assessment of the seismic hazards posed by CSU buildings as directed by former Governor Deukmejian's executive order and legislative provisions. The CSU Seismic Review Board (SRB) was established to advise and assist in determining the condition of CSU buildings, and to technically oversee the program.

The SRB is comprised of:

- Charles Thiel Jr., Ph.D., President, Telesis Engineers (Chairman)
- Gregg Brandow, Ph.D., S.E., President, Brandow and Johnston, Adjunct Professor, University of Southern California
- John Egan, Principle Engineer, Geomatrix Consultants
- James A. Hill, S.E., President, James A. Hill and Associates, Inc.
- John A. Martin, Jr., S.E., President, John A. Martin and Associates, Inc.
- Svend Nielsen, S.E., Principle, Johnson and Nielsen
- Theodore C. Zsutty, Ph.D., S.E., Professor, San Jose State University, Retired

Seismic Mitigation and Plan

The CSU plan has four elements:

1. Mitigate significant life-safety threats posed by falling hazards as a priority. All such hazards at all 23 campuses and off-campus centers have been mitigated.
2. Identify those buildings that pose a significant life-safety threat and mitigate these hazards as soon as practical. As of September 2004, the majority of CSU buildings identified as posing a life-safety hazard to the students, staff, and faculty have been mitigated. Of the more than 200 buildings identified as potentially highly hazardous since inception, most have been retrofitted, and only ~~eight~~ **twelve** priority buildings remain to have retrofit design initiated. One of the ~~eight~~ **twelve**, Warren Hall at CSU Hayward, was recently approved for funding in the 2004/05 capital program.
3. Systematically raise the level of seismic safety for deficient buildings whenever any structural modification, alteration or addition to the structure is undertaken. This is through the application of Division VI-R requirements for all construction; particularly those circumstances identified as warranting action. The SRB is planning to revisit and evaluate the existing structure of campus buildings during 2004/05. The purpose is to confirm the building's structural life-safety hazards in light of code changes and lessons learned since 1992.
4. Assure that all CSU new construction and modification of existing structures have independent, technical peer review of the earthquake performance aspects of the plans. Review continues through construction.

2003-2004 Seismic Review Board Activities

The SRB met six times during the reporting time period, four meetings at the Chancellor's Office and two meetings at campuses. The SRB members continue to provide peer review of construction activities at all of the campuses and technical support to the CSU Building Official and the Deputy Building Officials at each campus.

Among the notable activities of the SRB in the year since the last report to the trustees were:

1. Revised and distributed the *CSU Seismic Requirements*, adopted December 8, 2000, revised April 2003. This includes the specific seismic requirements for all construction work in the CSU and establishes the minimum seismic coefficients to be used with the California Building Code (CBC) provisions.
2. Maintained the CSU priority list for seismic retrofit list, which was revised to contain two parts: first, those projects that are priority actions that should be undertaken solely because of the seismic hazard posed by the building; and second, those buildings that have significant seismic issues that need to be recognized when the campus is contemplating alterations or modifications of the building. The latter is to recognize the seismic issues of the building during the planning stage for such modifications or alterations. These problems are to be resolved notwithstanding the possibility that the CBC, Division VI-R may administratively not so require.
3. Continued working with the Pomona campus to implement actions to accommodate the San Jose fault that passes through the campus and has an identified trace. Of the 22 Pomona buildings within the fault trace, only a limited number pose a significant life-safety hazard during fault rupture. These buildings were added to the seismic retrofit priority list as appropriate. Development of seismic retrofit plans for these specific buildings is under the review of the SRB.
4. Continued preparing additions to the *CSU Seismic Requirements* to address temporary structures (e.g., trailers), light metal frame construction, pre-engineered structures, and selected issues in wood construction, all of which are not treated adequately in the CBC.
5. Worked with the Division of the State Architect and the Building Standards Commission on how Division VI-R (CBC) will be revised to reflect the recently adopted National Fire Prevention Association building code as the basis for the CBC.
6. Continued to develop a common lease/purchase policy to be used by state agencies (Department of General Services) and the University of California. The objective is to establish a common set of seismic requirements to be used by all, which would provide a basis for decision-making and could be customized to meet individual circumstances.

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7. Made an initial inspection of the damage to the San Luis Obispo campus following the San Simeon earthquake and determined that there was no need for special actions to identify dangerous conditions or oversee repair and reconstruction. The earthquake caused almost no structural damage to the CSU campus, and no further SRB action was required. The SRB earthquake emergency response plan was not activated.