

## **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
- John A. Martin, Jr., S.E., President, John A. Martin and Associates, Inc.
- Svend Nielsen, S.E., Principle, Johnson and Nielsen
- Richard Niewiarowski, Principle, Rutherford and Chekene
- Thomas Sabol, Ph.D., S.E., Principle, Englekirk and Sabol
- Theodore C. Zsutty, Ph.D., S.E., Consulting Structural Engineer, Professor, San Jose State University, Retired

We regret to inform the Board of Trustees that Mr. James A. Hill, S.E., passed away this last year. He served with distinction on the SRB from its inception. He will be greatly missed. Mr. Richard Niewiarowski and Dr. Thomas Sabol joined the SRB to add to the capabilities of the board and to ensure continuity into the future.

### **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 August 2005, 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 twelve priority buildings remain to have retrofit design initiated. Warren Hall (CSU East Bay), one of the twelve, was originally approved for funding in the 2004/05 capital program. Reassessment of the project changed the scope to: a) construct the Student Services/Administrative Replacement Building for the services/programs currently housed in the upper levels of Warren Hall, which was approved for initial funding in the 2005/06 capital program; b) move those students and staff from Warren Hall into the completed replacement building; and c) request future funding for the seismic upgrade of Warren Hall, which will include demolition of the upper levels.
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 initiated revisits and evaluation of the existing structure of campus buildings during 2004/05. This task continues and will be completed in 2005/06. 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.

#### **2004/2005 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 June 2005. 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 the seismic retrofits, which contains 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. Developed a lease/purchase policy for use by CSU, the University of California (UC), and the Department of General Services (DGS) for the seismic evaluation of acquired facilities for use by the university. This is currently under review by the campuses. The policy, which has been accepted by UC and DGS, will set the same procurement policy on seismic evaluation of properties and should increase the availability and competitiveness of lease property.
4. Worked with the Division of the State Architect and the Building Standards Commission in preparation of a major revision to the California Building Code. The board reviewed and drafted changes to the existing code language in order to provide technical input to the state as part of the new code adoption. These activities will continue in 2005/06.

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5. Initiated a comprehensive review of the seismic characteristics of all CSU property. Two SRB members, including the assigned peer reviewer, will visit each campus. This is the first general reassessment to take place since the program was begun in 1993. The purpose is to ensure that buildings that may pose a life-safety hazard to students, faculty, and staff have not been inadvertently overlooked.