

State of California
Seismic Safety Commission

Memo

To: Seismic Safety Commissioners

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Date: July 6, 2011

Subject: Update on the Pilot Program for Evaluation of the Most
Seismically Vulnerable California Public School Facilities

Background

The State Allocation Board (SAB) met on Wednesday, May 25, 2011 to discuss options by OPSC, DSA and CSSC to be considered for the increase participation in the Seismic Mitigation Program, through revisions of the standards required, for districts to access the remaining Prop. 1D funds for the retrofit projects.

The Commission recommendations were to reduce the spectral acceleration from 1.68g to 1.55g, expand the eligible Category 2 buildings (with RMI and C2A) and not expand the program to encompass other geologic hazards (liquefaction, fault rupture, landslide, etc.).

The SAB passed on changes to the recommendations as follows: removed the spectral acceleration requirement, expanded Category 2 building types to include any defined in AB 300, instead of those designated, require structural engineers to include geological hazards in their report for the building's potential for catastrophic collapse in a seismic event. The SAB also directed the OPSC staff to return with conforming regulatory amendments for their recommendations, which will require changes to the Seismic Evaluation Template.

Update and Recommendation

Mr. David Zian, Chief of Program Services and Mr. Alan Shoemaker, Project Manager, OPSC, will report on the actions taken by the SAB on the revisions to the options recommended by OPSC, DSA and CSSC, which require changes to the regulations and the Seismic Evaluation Template and a possible need to revisit the added \$50K agreement to the CSSC/OPSC Interagency Agreement.

Enclosed is the OPSC Report for review and approval.

REPORT TO CALIFORNIA SEISMIC SAFETY COMMISSION

SEISMIC MITIGATION PROGRAM

PRESENTED BY

OFFICE OF PUBLIC SCHOOL CONSTRUCTION

MEETING DATE: July 14, 2011

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INTRODUCTION

In November 2009, the California Seismic Safety Commission (CSSC) provided Office of Public School Construction (OPSC) a \$200,000 grant to contract for structural engineering services to conduct evaluations at public K-12 school sites preliminarily identified by the Division of the State Architect (DSA) that may be at risk during a seismic event. In addition, the contracts were designed to develop a standardized seismic evaluation report template (template) to provide a more systematic and cost effective approach for determining the seismic safety of school facilities.

Of the original 16 school districts in California with preliminarily qualified buildings, nine school districts, containing 38 identified buildings, chose to participate in this seismic assessment program utilizing the template. To date, the template has been successfully used by structural engineers in the inspection and reporting process of all 38 preliminarily qualified school buildings. As a result of these reviews, six school districts, containing 21 buildings, are eligible for State seismic funding under current regulations.

The OPSC has estimated that the State share of replacement/rehabilitation costs for the 21 identified buildings could reach approximately \$76.2 million if all six school districts request Seismic Mitigation Program (SMP) grant funding for all 21 identified buildings. These cost estimates were derived by using OPSC's construction cost index formulas for SMP replacement projects.

SEISMIC MITIGATION PROGRAM BACKGROUND

Proposition 1D, approved by California voters in November 2006, provided \$199.5 million in grant funds for SMP construction projects determined to have “most vulnerable California school facilities” status. These grant funds are provided to repair, reconstruct, or replace the most vulnerable school facilities that are identified as Category 2 buildings determined to pose an unacceptable risk of injury to its occupants in the event of a seismic occurrence. Under current regulations, three school districts have received approximately \$19.0 million in SMP funding or funding application approvals.

In March 2011, the State Allocation Board (SAB) established the Seismic Mitigation Sub-Committee (Committee) to consider program changes to increase participation in the SMP. The Committee met in March, April and May 2011 to develop regulatory amendment recommendations. These recommendations were presented for full SAB consideration at the May 2011 SAB meeting. The Committee met again in June 2011 to discuss regulatory amendments proposed by the OPSC. At their June 22, 2011 meeting, the SAB adopted the SMP regulatory amendments and authorized the OPSC to file emergency regulations with the Office of Administrative Law (OAL).

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NEW SMP ELIGIBILITY CRITERIA - GENERAL

As a result of regulatory changes adopted by the SAB in June 2011, a school district will no longer have to meet minimum spectral acceleration thresholds. After meeting the new criteria (detailed below and on page 3), a school district will be eligible for SMP Facility Hardship funding to replace or rehabilitate school facilities if the school district demonstrates that the condition of the respective school facilities poses an unacceptable risk of injury to its occupants in the event of a seismic occurrence.

Based on the June 22, 2011 SAB approval of program changes, future SMP grant requests must meet the following criteria:

- The project must contain a building with any “Category 2” construction type as defined in Assembly Bill (AB) 300 (see below “Detail”).

- The construction contract was executed on or after May 20, 2006;
- The project funding provided shall be for the minimum work necessary to obtain DSA approval;
- The building is designed for occupancy by students and staff;
- A report by a structural engineer, which identifies structural deficiencies that pose an unacceptable risk of injury to its occupants in a seismic event. The DSA must concur with this report.
- If the unacceptable risk of injury includes, but not limited to, the presence of faulting, surface rupture, liquefaction, or landslide, these hazards must be documented by a geologic hazards report prepared by an engineering geologist. The California Geologic Survey (CGS) must concur with this report.

NEW SMP ELIGIBILITY CRITERIA – DETAIL: CATEGORY 2 BUILDINGS

Category 2 Buildings means a building is any of the following structural type:
(Category 2 Buildings added by SAB action are provided in **Bold**)

1. C1 – Concrete Moment Frame,
2. C1B – Reinforced Concrete Cantilever Columns with Wood Roofs,
3. **C2A – Concrete Shear Wall with Flexible Diaphragms,**
4. C3A – Concrete Frame with Infill Masonry Shear Walls and Flexible Diaphragms,
5. PC1 – Precast/Tilt-up Concrete Shear Wall with Flexible Diaphragms,
6. PC1A – Precast/Tilt-up Concrete Shear Wall with Rigid Diaphragms,
7. PC2 – Precast Concrete Frame and Roofs with Concrete Shear Walls,
8. PC2A – Precast Concrete Frame without Concrete Shear Walls and with Rigid Diaphragms,
9. URM – Unreinforced Masonry Bearing Wall Buildings,

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10. **RM1 – Reinforced Masonry Bearing Wall with Flexible Diaphragms,**
11. **URMA – Unreinforced Masonry Bearing Wall with Rigid Diaphragms,**
12. **S1B – Steel Cantilever Columns with Flexible Diaphragms,**
13. **S3 – Steel Light Frame Metal Siding and/or Rod Bracing,**

14. M – Mixed construction containing at least one of the above structure types.

NEW SMP ELIGIBILITY CRITERIA – DETAIL: REPORTING

A structural report shall conform to the guidelines prepared by the DSA, in accordance with Education Code Section 17310. The DSA must provide concurrence to this structural report. The report should detail:

1. the lateral force-resisting system of the building, which does not meet collapse prevention performance objectives,
2. the specific deficiencies and,
3. the reason(s) for concluding that the building has a potential for catastrophic collapse

If site conditions affect structures (i.e. faulting, surface rupture, liquefaction or landslide) they must be documented by a geologic hazards report prepared by an engineering geologist. The geologist report must be prepared in accordance with California Building Code section 1802A and the California Building Code, Section 4-317(e). Concurrence of this report must be provided by the CGS. A copy of the CGS approved hazard report must be submitted to the DSA along with the initial project application.

RETENTION OF FUNDS

During previous CSSC meetings, the OPSC received approval from the CSSC to retain unencumbered funds and additional grant funds to provide for more school districts an opportunity to participate in both identifying and assessing seismic risk potential. The approved funds retention balance is currently \$127,347.

As stated with the original fund retention request, retention of unencumbered funds will also be useful when revisions to SMP eligibility requirements have been incorporated into the template. Following the SAB approval action in June 2011, many school districts have related to the OPSC their interest in receiving “no-cost” seismic assessments.

PROGRAM DEVELOPMENTS/NEXT STEPS

As stated, the SAB approved amendments to the SFP regulations in June 2011 revising the section for SMP funding within Facility Hardship SFP Regulation 1859.82. As required to adopt new regulations, the regulations must be submitted to the OAL for approval. It is currently projected that emergency regulations could be effective as early as late July or early August 2011.

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The DSA has been tasked to update DSA Procedure 08-03 "Seismic Evaluation Report Review-Facility Hardship" incorporating 1) the regulatory amendments to the SFP regulations and 2) the latest edition of ASCE 31 Seismic Evaluation of Existing Buildings.

The purpose of DSA Procedure 08-03 is to set forth the information that needs to be provided in the seismic evaluation report and the procedures that need to be followed by school district applicants requesting review of seismic evaluation reports of existing school buildings.

Following the adoption of changes to DSA Procedure 08-03, these changes must be incorporated into the template to ensure conformity. Once the regulations become effective and the template has been updated in July or August 2011, the template and seismic reviews will again be provided to school districts at no cost utilizing the \$127,347 granted to the OPSC the CSSC.