REPORT OF THE EXECUTIVE OFFICER
State Allocation Board Meeting, May 27, 2009

SEISMIC MITIGATION PROGRAM

PURPOSE OF REPORT

To present options for proposed regulatory amendments in order to promote participation in the Seismic Mitigation Program.

DESCRIPTION

At the March 25, 2009 State Allocation Board (SAB) meeting, Staff presented a report discussing options to promote the participation in the Seismic Mitigation Program. The report provided a historical perspective on the Field Act and the passage of Assembly Bill (AB) 300, which required the Division of the State Architect (DSA) to prepare a report on the seismic safety of public school facilities in California. The AB 300 report entitled, "Seismic Safety Inventory of California Public Schools" identified 7,537 buildings that may not perform well in earthquakes. These buildings require detailed seismic evaluation to determine if they can meet life-safety performance requirements. However, some of the buildings identified in the AB 300 report have already been rehabilitated, replaced, demolished, or are no longer used for students and teachers. As a result of concerns arising from the AB 300 report, Proposition 1D provided $1.9 billion for new construction of school facilities and up to 10.5 percent of that amount (or $199.5 million) for seismic repair, reconstruction, or replacement of the "most vulnerable" school facilities.

In considering the report, the SAB requested Staff to meet with the DSA and the Department of Finance (DOF) and to report back with proposed regulations that promote the allocation of funds for the Seismic Mitigation Program. The proposed regulations on the Attachment lower the ground shaking intensity (GSI) factor, which is an essential criterion in determining the "most vulnerable" facilities as required by statute. In addition, options are presented if the SAB selects to initiate an unfunded list.

STAFF COMMENTS

Decrease Ground Shaking Threshold

Staff met with the DSA and the DOF on April 2, April 14, and May 8, 2009 to determine a methodology for decreasing the short period spectral acceleration or GSI factor requirement. The GSI factor provides a measure of the relative probability of a given critical level of earthquake ground motion from one location to another. In simple terms, higher values equal higher risk. Under the current regulations, a school building must be located where the GSI factor is 1.70g or more in order to qualify for seismic funding.

The GSI factor requirement is one of four criteria developed to determine if a school building is eligible for funding in the program. In brief, the criteria:

1. Focus on four of the 12 "Category 2" construction types;
2. Set a GSI factor according to the U.S. Geological Survey (USGS) National Seismic Hazard Maps accounting for facilities in the AB 300 inventory;
3. Require the buildings to be occupied by students and teachers; and,
4. Require structural engineering reports identifying building deficiencies.

In creating the Seismic Mitigation Program Regulations, the original count of facilities likely to be eligible was 77 at a 1.70g and higher GSI factor, the factor currently used. However, many of the buildings identified have either been demolished, retrofitted, or taken out of service. Through extensive outreach on the part of the DSA and the Office of Public School Construction (OPSC), it has been determined that 25 facilities remain eligible in ground shaking geographical zones of 1.70g and higher, based on the USGS Hazard Maps. This includes three districts that have submitted applications to the DSA for review, one of which has been submitted to the OPSC and is currently under review.

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STAFF COMMENTS (cont.)

Lowering the GSI will enable additional facilities to qualify for funding consideration. However, setting the factor at too low a level may divert funds from the "most vulnerable" facilities to less vulnerable facilities. Setting the factor at too low a level could also leave many projects unfunded and exposed to liability. In order to determine the appropriate decrease to the GSI factor, the OPSC, DSA, and the DOF discussed a methodology for approximating the cost to the State based on the number of eligible facilities that exist at lower GSI zones. Based on a given set of assumptions, it appears that the $199.5 million may be sufficient to fund projects in GSI zones lower than 1.70g.

Estimated Average Cost to the State Per Square Foot

There are many unknown variables that will vary the cost to the State if the GSI factor is lowered. Staff used the following assumptions in trying to determine a lower GSI factor:

1. Approximately 75 percent of the Seismic projects will qualify for replacement of the facilities, while 25 percent of the projects will only qualify to rehabilitate the existing facilities[1];
2. Based on the total number of financial hardship districts in the State, 18 percent of the projects will be financial hardship and therefore the State will pay 100 percent of the eligible project costs;
3. Ancillary costs are eligible for Seismic funding and are included in the grants provided; and,
4. All code triggered costs are eligible for Seismic funding, including work required by the Federal Americans with Disabilities Act or by the DSA handicapped access or fire code requirements.

For projects that qualify for replacement of the facilities, the estimated average cost per square foot was calculated using the 2009 Current Replacement Cost (CRC). An additional 35 percent was added to the cost for site development. (Staff utilizes the same methodology when calculating Facility Hardship applications for SAB conceptual approval.) It is important to note that the Seismic Mitigation Program does not always provide grants to replace the total square footage of an existing building. Under the provisions of the program, grants are limited based on the minimum essential facility square footage calculation listed in School Facility Program (SFP) Regulation Section 1859.82.

If the cost to mitigate the facility is less than 50 percent of the replacement value based on the 2009 CRC, projects only qualify for rehabilitation funding. The estimated average cost per square foot was calculated assuming the cost per square foot is approximately 50 percent of the CRC to replace the building.

For projects that qualify for replacement, the estimated average cost to the State per square foot equals $243. For projects that qualify for rehabilitation, the estimated average cost to the State per square foot equals $90. These costs seem to be consistent with two of the projects received to date, which consist of an estimated $9 million replacement project and an estimated $5 million retrofit.

Facilities Located in GSI Zones Lower than 1.70g

The DSA has compiled a list of facilities from the AB 300 list that may be eligible for Seismic funding in zones lower than 1.70g. Based on the data set, an additional 13 facilities with a total square footage of 95,504 will become eligible for Seismic funding if the GSI factor requirement is lowered to 1.65g. Using all the stated assumptions, it appears that additional facilities become eligible, the program retains its statutory focus on the most vulnerable facilities, and the $199.5 million may be sufficient to fund the additional projects.

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[1] If a project qualifies for replacement facilities under the facility hardship program, but the school district requests to rehabilitate the existing facility rather than replace it, the SAB has historically allowed the school district to rehabilitate the facility. However, the maximum funding provided could not exceed the replacement value, and no additional funds would be provided if the rehabilitation exceeded that amount.

STAFF COMMENTS (cont.)

Unfunded List

SAB members expressed concerns at the March 25, 2009 SAB meeting regarding the generation of an unfunded list when the seismic funds have been exhausted. Specifically, there was a question of whether assembling a list of facilities that have been determined to be subject to catastrophic collapse in a seismic event may expose districts and the State to liability. In addition, eligibility for seismic funding in future bonds may change, leaving projects on the unfunded list ineligible for funding.

At the request of the SAB, Staff has reviewed existing regulatory language and now believes that amendments are not necessary to initiate a list of unfunded projects in the Seismic Mitigation Program. It appears that the language in SFP Regulation Section 1859.95 is sufficiently broad to enable the SAB to direct Staff to compile a list of unfunded projects in the Seismic Mitigation Program. In addition, the SAB would need to determine whether the unfunded list should include only those applications up to the existing bonding authority, or to include applications beyond the existing bonding authority.

AUTHORITY

EC Section 17075.10(a) states, "A school district may apply for hardship assistance in cases of extraordinary circumstances. Extraordinary circumstances may include, but are not limited to, the need to repair, reconstruct, or replace the most vulnerable school facilities that are a Category 2 building, as defined in the report submitted pursuant to Section 17317, determined by the department to pose an unacceptable risk of injury to its occupants in the event of a seismic event."

SFP Regulation Section 1859.2. states: "Most Vulnerable Category 2 Buildings," as defined by the DSA, means the building is located where the short period spectral acceleration is 1.70g or more based on the 2002 United States Geological Survey National Seismic Hazard Maps adjusted for site class factors; the building is designed for occupancy by students and staff; the building type is either C1 – Concrete Moment Frame, PC1A – Precast/Tilt-up Concrete Shear Wall with Flexible Roof, PC2 – Precast Concrete Frame and Roofs with Concrete Shear Walls, or URM – Unreinforced Masonry Bearing Wall Buildings; and a structural report is provided by a structural engineer that demonstrates the lateral force-resisting system of the building does not meet collapse prevention performance objectives and the specific deficiencies and reasoning for concluding that the building has a potential for catastrophic collapse.

OPTIONS

Decrease Ground Shaking Threshold

The following options are presented for the Board's consideration:

1. Authorize Staff to file emergency regulations with the Office of Administrative Law (OAL) that will lower the GSI factor to 1.65g.
   Pro:
   - Lowering the GSI factor will enable additional facilities to qualify for funding consideration.
   - Based on the above analysis, it appears that the $199.5 million available may be sufficient to fund the known eligible facilities.

   Con:
   - Setting this factor at too low a level may divert funds from the "most vulnerable" facilities to less vulnerable facilities.
   - Setting the factor at too low a level may leave many projects unfunded and expose school districts and the State to liability.

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OPTIONS (cont.)

2. Authorize Staff to file emergency regulations with the OAL that will lower the GSI factor to 1.68g now and then lower to 1.65g effective January 1, 2010.
   Pro:
   - Lowering the GSI factor will enable additional facilities to qualify for funding consideration.
   - Stepping down the GSI in this fashion helps to ensure that the most vulnerable facilities are funded first.

   Con:
   - Setting this factor at too low a level may divert funds from the "most vulnerable" facilities to less vulnerable facilities.
   - Setting the factor at too low a level may leave many projects unfunded and exposed to liability.

3. Authorize Staff to file emergency regulations with the OAL that will lower the GSI factor to an alternate GSI factor.
   Pro:
   - Lowering the GSI factor will enable additional facilities to qualify for funding consideration.

   Con:
   - Setting this factor at too low a level may divert funds from the "most vulnerable" facilities to less vulnerable facilities.
   - Setting the factor at too low a level may leave many projects unfunded and exposed to liability.

4. Take no action.

Unfunded List

The following options are presented for the Board's consideration:

1. Authorize Staff to initiate an unfunded list up to the SAB's current bonding authority.
   Pro:
   - An unfunded list provides assurances to school districts that projects would qualify for funding
   - If funding becomes available in the future, such as in a future bond, districts could reapply for funding. If the criteria for funding is changed, districts would be required to meet the new criteria before receiving SAB approval that their project qualifies for seismic funding.

   Con:
   - Establishing an unfunded list may cause districts to misconstrue the list as a guarantee of future State funding. Districts with qualifying projects would have no assurances that the projects qualify for funding.
   - Assembling a list of facilities that have been determined to be subject to catastrophic collapse in a seismic event may expose districts and the State to liability.

2. Authorize Staff to initiate an unfunded list up to and beyond the SAB's current bond authority.
   Pro:
   - An unfunded list provides assurances to school districts that projects would qualify for funding

   Con:
   - Establishing an unfunded list may cause districts to misconstrue the list as a guarantee of future State funding. Districts with qualifying projects would have no assurances that the projects qualify for funding.
   - Assembling a list of facilities that have been determined to be subject to catastrophic collapse in a seismic event may expose districts and the State to liability.
   - Eligibility for seismic funding in future bonds may change – leaving projects on the unfunded list ineligible for future funding.

RECOMMENDATION

Staff recommends adoption of Option 1 for both lowering the GSI factor requirement and for the initiation of an unfunded list.

ATTACHMENT
SCHOOL FACILITY PROGRAM REGULATIONS
State Allocation Board Meeting, May 27, 2009

OPTIONS

Option 1:

Section 1859.2 Definitions.

For the purpose of these regulations, the terms set forth below shall have the following meanings, subject to the provisions of the Act:
….
"Most Vulnerable Category 2 Buildings," as defined by the DSA, means the building is located where the short period spectral acceleration is ~~1.70~~ 1.65g or more based on the 2002 United States Geological Survey National Seismic Hazard Maps adjusted for site class factors; the building is designed for occupancy by students and staff; the building type is either C1 – Concrete Moment Frame, PC1A – Precast/Tilt-up Concrete Shear Wall with Flexible Roof, C2 – Precast Concrete Frame and Roofs with Concrete Shear Walls, or URM – Unreinforced Masonry Bearing Wall Buildings; and a structural report is provided by a structural engineer that demonstrates the lateral force-resisting system of the building does not meet collapse prevention performance objectives and the specific deficiencies and reasoning for concluding that the building has a potential for catastrophic collapse.
….

Note: Authority cited: Sections 17070.35 and 17078.64, Education Code.

Reference: Sections 17009.5, 17017.6, 17017.7, 17021, 17047, 17050, 17051, 17070.15, 17070.51(a), 17070.71, 17070.77, 17071.10, 17071.25, 17071.30, 17071.33, 17071.35, 17071.40, 17071.75, 17071.76, 17072.10, 17072.12, 17072.18, 17072.33, 17073.25, 17074.10, 17074.30, 17074.32, 17075.10, 17075.15, 17077.40, 17077.42, 17077.45, 17078.52, 17078.56, 17078.72(k), 17079, 17079.10, 17280, 56026, and 101012(a)(8), Education Code; Section 53311, Government Code; and Section 1771.5, Labor Code.

Option 2:

Section 1859.2 Definitions.

For the purpose of these regulations, the terms set forth below shall have the following meanings, subject to the provisions of the Act:
….
"Most Vulnerable Category 2 Buildings," as defined by the DSA, means the building is located where the short period spectral acceleration is ~~1.70~~ 1.68g or more prior to January 1, 2010 and 1.65 or more thereafter, based on the 2002 United States Geological Survey National Seismic Hazard Maps adjusted for site class factors; the building is designed for occupancy by students and staff; the building type is either C1 – Concrete Moment Frame, PC1A – Precast/Tilt-up Concrete Shear Wall with Flexible Roof, C2 – Precast Concrete Frame and Roofs with Concrete Shear Walls, or URM – Unreinforced Masonry Bearing Wall Buildings; and a structural report is provided by a structural engineer that demonstrates the lateral force-resisting system of the building does not meet collapse prevention performance objectives and the specific deficiencies and reasoning for concluding that the building has a potential for catastrophic collapse.
….

Note: Authority cited: Sections 17070.35 and 17078.64, Education Code.

Reference: Sections 17009.5, 17017.6, 17017.7, 17021, 17047, 17050, 17051, 17070.15, 17070.51(a), 17070.71, 17070.77, 17071.10, 17071.25, 17071.30, 17071.33, 17071.35, 17071.40, 17071.75, 17071.76, 17072.10, 17072.12, 17072.18, 17072.33, 17073.25, 17074.10, 17074.30, 17074.32, 17075.10, 17075.15, 17077.40, 17077.42, 17077.45, 17078.52, 17078.56, 17078.72(k), 17079, 17079.10, 17280, 56026, and 101012(a)(8), Education Code; Section 53311, Government Code; and Section 1771.5, Labor Code.