

Lax oversight of school construction raises doubts about earthquake safety

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State regulators have routinely failed to enforce California's landmark earthquake safety law for public schools, allowing children and teachers to occupy buildings with structural flaws and potential safety hazards reported during construction.

Top management with the Division of the State Architect – the chief regulator of school construction – for years did nothing about nearly 1,100 building projects that its own supervisors had red-flagged. Safety defects were logged and then filed away without follow-up from the state.

California law requires the state architect's office to enforce the Field Act – seismic regulations enacted nearly 80 years ago. The law is considered a gold standard of school construction. It requires state oversight to assure professional engineering and quality control from the early design phase to the first day of classes.

These regulators are granted “the police power of the state” over the construction of public schools.

But over the last two decades, enforcement of the Field Act has been plagued with bureaucratic chaos, a California Watch investigation has found. Tens of thousands of children attend schools without the required Field Act certification.

Documents show uncertified schools with missing wall anchors, dangerous lights poised above children, poor welding, slipshod emergency exits for disabled students and malfunctioning fire alarms. These problems were reported by district school inspectors and state field supervisors and then lost in a swamp of paperwork.

In many cases, the state does not know if school officials have fixed these problems. Instead, the state architect's office issued warning letters to school board members and administrators, and walked away.

“This is a crisis,” said Steve Castellanos, the California state architect from 2000 to 2005, acknowledging the office he once ran needs an overhaul. “I think there has been a failure in the system.”

Over the past 19 months, California Watch has reviewed tens of thousands of pages of documents, interviewed scores of sources and built two databases tracking school projects and inspector evaluations. Among the findings to be presented in a three-part series:

- At least 20,000 projects – from minor fire alarm upgrades to major construction of new classrooms – were completed without receiving a final Field Act certification. California Watch determined that roughly six out of every 10 public schools in the state have at least one uncertified building project.
- The state architect's office has allowed building inspectors hired by school districts to work on complex and expensive jobs despite complaints of incompetence. Inspectors have been missing from construction sites at key moments and have been accused of filing false reports – but that has not stopped them from getting more work.
- The state's top regulators at times have appeared more concerned with caseload management than enforcing the Field Act. One state architect ordered what was dubbed “Close-O-Rama” – a mad dash in the 1990s to approve projects as Field Act safe. Even now, the state architect's office has classified hundreds of projects for “no apparent or recorded reason” as simply missing paperwork, according to a 2011 internal memo.

- A separate state seismic safety inventory created nearly a decade ago shows more than 7,500 older buildings as potentially dangerous. But restrictive rules have prevented schools from accessing a special \$200 million fund for seismic repairs. Only two schools have tapped the money. The vast majority of the buildings remain unfixed, and the money unused.
- As the state architect's office relaxed its oversight, the office became closely aligned with the industry it regulates. Government officials became members of a lobbying group for school construction firms; mingled at conferences, golf tournaments and dinners; and briefed the lobbying group's clients at monthly meetings. The state even told its employees that taxpayers would foot the bill for their membership dues.
- The California Geological Survey redrew the state's official earthquake hazard maps decades ago amid pressure from property owners, real estate agents and local government officials who feared property values would decline inside these seismic hot spots. As the maps shifted, some schools were located inside hazard zones one day and outside the next.

For years, the state architect's office has been aware of school construction problems. In 2006, the office found inadequate testing of construction materials, an increase in unapproved and unqualified inspections of school sites, and buildings that were "completed with other dangerous construction flaws," according to internal task force reports and e-mails.

But there is much left unknown. In addition to the 20,000 projects lacking Field Act certification, the state has discovered 59,000 more that have yet to be fully reviewed by the state architect's office to identify their Field Act status.

The state cannot assure the safety of students and teachers in every school without unwinding thousands of building projects. It would require contacting scores of architects and contractors, visiting school sites and reviewing reams of documents from projects that are years and even decades old.

It could take 14 years to clear the backlog, an official with the state architect's office wrote in an internal memo last month.

School officials have contributed to the regulatory breakdown. They have pressured architects, builders and their own inspectors to move forward on projects even if it meant overlooking the Field Act, records and interviews show. And contractors, according to inspectors, have cut corners to save costs and speed projects along.

Officials at the state architect's office cited sloppy record keeping among local school administrators and a lack of communication with state regulators as the central reason so many projects have failed to receive Field Act certification.

"We've seen definitely a lack of documentation. We've seen inconsistencies in some of the submitted documentation," said Howard "Chip" Smith, who became acting head of the state architect's office in August. "But we haven't actually seen a case where a significant, imminent hazard or risk was posed by one of these projects."

Scott Harvey, the acting director of the Department of General Services, which oversees the state architect's office, has doubts. When asked whether he believed schools were safe for children, he replied: "I don't really know. I'm hopeful that we have done the best we can to assure that kids are safe in their schools."

The case files at Southeast Middle School show just how regulatory failures have prompted alarm.

Taxpayers spent \$52 million to build the campus on a former General Motors factory site in South Gate, near Los Angeles. The school, which opened in 2004, sits in a liquefaction zone that could turn to mush in an earthquake, according to a report by a geological firm hired by the Los Angeles Unified School District.

Both the main architect and inspector on the construction job insisted that massive windows in the school's central classroom building were incorrectly installed. Now, more than 1,300 middle school students mingle, send text messages and listen to teachers next to windows that could, building officials have warned, dislodge or shatter in a quake.

Informed about the problems, the state architect's office denied Field Act certification to the school, then filed the project away without a detailed follow-up until contacted by California Watch.

Officials at the state architect's office now say they do not believe there are "any outstanding safety issues on the project." In an interview, administrators with the Los Angeles Unified School District insisted Southeast was constructed to Field Act standards and that critical phases of the design were approved by the state architect's office.

But a former L.A. district inspector who worked at the school continues to question whether the window defects were repaired. To be certain, he said, the district would have to rip open the walls and test the window connections – and there is no evidence that ever occurred.

"Would I send my kids there, or my grandkids there? No, I wouldn't," said David Bridi, the inspector. "Those are huge windows."

Critics believe the Field Act duplicates local building codes. Some legislators have even tried unsuccessfully to abolish it, calling the law onerous and complicated. Builders say the law creates too much unnecessary paperwork – and costly delays as they wait for action from the state architect's office.

But seismic experts say the law provides an important system of accountability and is one reason no child has died in an earthquake-damaged school in California since it was passed.

"The Field Act ... guaranteed they would have that information and make good use of it," said Peter Yanev, a World Bank earthquake engineer with more than 40 years of experience studying seismic building failures. "Otherwise, what's the use?"

Until now, experts such as Yanev said they believed nearly every school project in California had been certified.

The state has not seen a major quake in an urban area since the Northridge earthquake toppled freeways, ripped through apartment complexes and killed at least 57 people in 1994. But images of a crippled Japan, as well as a series of other powerful earthquakes around the globe the past two years, serve as chilling reminders of what could happen here.

Enforcement falls by the wayside

In March 1933, the Long Beach earthquake destroyed or severely damaged 230 school buildings near its epicenter. Officials speculated that thousands of children could have died if the quake had occurred during school hours. A month later, the Field Act's building standards and statewide inspection system became law.

The breakdown in the state's enforcement of the Field Act has occurred as schools face real threats from earthquakes. In 2003, a magnitude 6.5 earthquake in Paso Robles along the Central Coast caused significant damage to the main building at Flamson Middle School, which had to be demolished. The school had been built nine years before the Field Act and was seismically retrofitted in 1959.

Most other building projects are subject to inspection by city or county officials. But schools are different. The central mission of the Division of the State Architect is to enforce the Field Act and its distinct inspection process. The office must review the design and engineering plans for school construction and renovation projects to make sure the buildings can withstand the ground-shaking forces of an earthquake.

If a contractor is funneling concrete over a series of welds on a support column, for example, an inspector hired by the school district must witness the work and verify that the strength of the welds and concrete meets Field Act standards. A field engineer from the state architect's office oversees these inspectors.

School board members, builders, architects and inspectors can be charged with a felony for failing to follow the act's provisions. School board members could face additional criminal charges if a student or staff member dies or is injured by earthquake damage at a school without Field Act certification.

The state architect's office also has the authority to halt construction projects if inspectors or field engineers uncover faulty work, but officials acknowledge they rarely use the power. A 2006 internal survey of division employees noted unspecified "political pressure" for the lack of stop-work orders.

Kathy Hicks, former deputy director of the state architect's office, defended the agency's lack of sanctions.

"Although we are a regulatory enforcement agency, our goal is to facilitate construction of safe schools," she said. "The idea of prosecuting is counter to what we are trying to accomplish."

California Watch found cases where the state architect's office did little or nothing about safety problems identified during inspections or visits by its own field engineers.

A year after renovations were made to the San Martin/Gwinn School in Santa Clara County, a field engineer from the state architect's office found seven large holes on the east side of the building and walls that were built too thin.

An unsecured brick chimney towered over a classroom. A minor earthquake could cause the chimney to collapse and crash through the building, field engineer Robert Potter wrote in a letter to the school district. He described the chimney as "an obvious seismic hazard."

"Although the modernization plans for the (building) were approved by this office, the reviewer and checker apparently missed the above possible seismic deficiencies," Potter wrote in 1999. There is no evidence that the school district hired an inspector to oversee the project or that the construction work was monitored, as required by law.

Despite Potter's warning, the district used the classroom as a kindergarten and day-care center for nearly a decade.

In 2007, the state architect's office finally sent the Morgan Hill Unified School District a letter denying Field Act certification – but nothing more. The building was converted to storage. The unreinforced masonry chimney remains attached to the building.

Regulators fall behind

From 1940 to 1970, nearly every school project built in California received Field Act certification, according to state architect records.

The failure to fully enforce school earthquake safety standards came as California embarked on an unprecedented school construction boom. Over the past 13 years, voters have approved \$35.4 billion in state bonds to build and renovate public schools, as well as to rehabilitate structures with unreinforced masonry and other potential hazards.

School districts hired construction firms, architects and inspectors, but the Division of the State Architect's staff had been cut under Gov. Pete Wilson.

Wilson, who served from 1991 to 1999, pushed the use of private contractors instead of state employees for many jobs. During his term, the state architect's office was reduced by more than half – from nearly 400 employees to 189. Today, the office has about 300 employees.

As the number of school projects increased, governors began to raid the division's budget.

The state architect's office has collected tens of millions of dollars in fees from construction projects fueled by the bond money. The fees represent the bulk of the division's budget. Over the past decade, the Division of the State Architect received nearly \$400 million from school districts.

During the 1980s and 1990s, the state faced a series of budget crises, prompting the Wilson administration to shift nearly \$6.5 million from the state architect's office. The money was never repaid. Over the course of his term, Gov. Gray Davis and the Legislature borrowed \$35 million from the office; they paid it back by 2003. Five years later, Gov. Arnold Schwarzenegger's administration borrowed \$60 million more. To date, only \$10 million from that budget raid has been returned.

The state architect under Wilson, Harry C. Hallenbeck, began questioning the need for state building standards altogether.

In a 1991 interview with The San Diego Union, Hallenbeck scoffed at whether California should be promoting earthquake safety, noting that his private architectural firm's office in the Gaslamp Quarter of San Diego did not meet safety standards: "We've been in this space for seven years now and been in several good quakes, and it's still here."

Dale T. Rittman, a former supervisor in the state architect's office, said he resigned in 1993 after a confrontation with Hallenbeck over safety standards. Rittman said he was urged by Hallenbeck to certify schools that Rittman believed did not meet state standards.

"I told him I wasn't going to jail for him," Rittman said. "I knew then I better retire because my days would be numbered."

In April 1993, weeks after the confrontation, Hallenbeck ordered the state architect's office to waive scores of Field Act safety requirements, according to a memo under Hallenbeck's name.

In his memo titled "Close-O-Rama instructions," Hallenbeck authorized his staff to approve projects even if they lacked sworn affidavits from architects and engineers, or were missing documents proving that fire alarms had been installed.

The standard documents confirming the quality of concrete mixes were not needed, nor were original signatures on documents. The certification letters issued during Close-O-Rama did not need to include a list of waived items, Hallenbeck instructed.

Hallenbeck, who now works for Vanir Construction Management, said in an interview that he does not remember the Close-O-Rama memo or a conversation with Rittman.

“I don’t believe I would have waived anything,” he said.

Despite efforts such as Close-O-Rama, the caseload grew out of control. The state was asked to review about 1,800 projects in 1995. Five years later, the division had more than 3,500 school building projects to review in a single year, records show.

When school districts complained about delays, the state redirected its field engineers to clear the backlog of so-called “plan reviews.” As a result, the staff spent more time checking construction plans and less time at job sites ensuring that standards were met.

Uncertified projects get new status

When California Watch asked about uncertified schools last spring, then-State Architect David Thorman, a Schwarzenegger appointee, ordered his office to examine more than 1,000 school construction projects that, records indicated, were completed with unresolved safety problems.

Soon thereafter, the state architect’s office began changing the uncertified projects to a lesser designation, without visiting the schools, according to interviews and records. Regulators only reviewed some of the paperwork in the project files, according to an e-mail from Masha Lutsuk, an administrator at the state architect’s office.

During a two-day period in March 2010, the state changed the status of more than 400 separate building projects in the Los Angeles region.

An internal memo raised concerns about this process. The February 2011 memo from a high-ranking official at the state architect’s office expressed alarm that “hundreds of projects” were changed from possible structural defects to missing paperwork “for no apparent or recorded reason.”

Last year, the division started to worry about how the public might react. At a meeting of prominent architects, engineers and builders, while discussing the certification issue and California Watch’s investigation, a regional manager for the division said: “It is only a matter of time before this explodes in all our faces.”

At the same time, the state braced itself for questions about what it had done.

The media staff at the Department of General Services – which oversees the state architect’s office – created talking points describing these projects as simply bookkeeping issues. “Sensitivity has increased as to reporters digging deep into government business. People need to be mindful of what they put in e-mails,” stated internal minutes from a November 2009 meeting with top managers at the state architect’s office.

By December 2010, only 192 school projects retained their uncertified status due to unresolved safety issues.

California Watch found projects with potential safety problems, including at least one that had been recently reclassified as a paperwork issue.

The construction of Southeast Middle School near Los Angeles in the early 2000s had three inspectors involved in oversight, yet problems with poor quality persisted. As classes started, the fire alarm system did not work properly and water leaked into walls, according to project records.

Most of the problems appear to have been resolved – except for one.

Before the school opened, Don Shirley, a building inspector for the Los Angeles Unified School District, found that large steel-frame windows at the school were being installed without the proper interlocking steel bolts needed to hold the structure together in an earthquake.

The window-wall system had not been reviewed and approved by the state architect's office, as required by the Field Act.

Inspectors worried that a strong wind or an earthquake could pop the glass out of the frame. One administrator even speculated the entire wall could fail.

According to Shirley's reports, "Windows being installed at Bldg. A do not comply with DSA (Division of the State Architect) approved drawings and are unsafe."

After Shirley raised concerns in 2004, the district replaced him with a less-qualified inspector, records show. Shirley left the project before the windows were finished.

In an interview, Jim Smith, the supervising architect working for the L.A. district, said a contractor had incorrectly built columns anchoring the window walls. Some bolts could not be attached because the columns were not precisely fitted to the windows.

Smith recommended rebuilding the columns.

But officials at Los Angeles Unified balked, telling Smith that the changes would take too long, according to interviews. The district ordered the walls around the windows to be finished without fixes to the columns, according to inspection reports. Smith said the district believed it could later submit computer calculations showing the building was sturdy enough.

"We went back and forth over several months," Smith said. "But they went ahead with the installation."

Drawings submitted to the state architect's office two years after the windows were completed indicate that shims and steel angles could serve as a fix to support the windows. The documents also indicate that the repair work was, in fact, completed.

But Smith, the lead architect on the project at the time, insists those drawings were never shown to him. He said that if the shims were installed, they were not designed to withstand earthquake forces.

The replacement for Shirley – the original inspector on the project – was not trained to inspect steel-frame buildings or windows. But in July 2010, six years after he joined the project, the inspector signed a final report for the state architect's office saying the Southeast project was built to standards.

As of early April 2011, Southeast Middle School still had not received Field Act certification from the state architect's office.