



LEGISLATIVE ANALYST REPORT

From: Adam Van de Water and Melissa Vanlandingham, Office of the Legislative Analyst
Date: August 9, 2006
RE: **GAO Item #2: SB1953 – Hospital Seismic Retrofits and St. Luke’s Hospital**
(OLA No. 032-06)

SUMMARY OF REQUESTED ACTION

The sponsor requested that the Office of the Legislative Analyst answer the following questions related to SB1953, with specific emphasis on St. Luke’s Hospital and appropriate recommendations:

1. What are the State requirements and timelines for SB1953 relating to hospital building standards?
2. What are the State requirements for new hospital construction, particularly moving the St. Luke’s emergency room to another location at the hospital?

EXECUTIVE SUMMARY

State law (SB1953) requires all of California’s approximately 470 general acute care hospitals to meet strict seismic safety standards for their buildings and critical medical equipment. Hospitals must have already submitted compliance plans as well as braced all systems essential to the safe evacuation of the hospital. They now have until this coming January to apply for an extension or else by January 1, 2008 must ensure that their buildings, at a minimum, do not pose a jeopardy to life during a major earthquake. By January 1, 2030 all hospitals must additionally meet the stricter building requirements established in 1973 of newer hospitals and must have provisions to operate for 72 hours during an emergency, including water and wastewater, fuel, and radiological capacity. Failure to meet these deadlines could result in the Department of Health Services declining to license any non-compliant facilities for operation.

St. Luke’s Hospital in the lower Mission has met all the initial requirements of SB1953 to date. However, the two major deadlines are looming – the first in 2008 and the second in 2030 – and St. Luke’s has not yet sought permits to begin meeting them. According to state officials, St. Luke’s Hospital will likely need to file for an available extension to meet the 2008 deadline, which it has not yet done. If the state grants an extension (a seemingly routine process), St. Luke’s will have until as late as 2013 to upgrade its Main Hospital or must cease providing acute care.

While St. Luke’s and Sutter Health adamantly deny any plans to relocate St. Luke’s emergency room, conversations with Sutter Health consultants and the former Chief Financial Officer indicate that they may be seeking to relocate to Cathedral Hill before these deadlines come to pass. If St. Luke’s/Sutter Health does decide to move, the existing facility at 3555 Cesar Chavez would need to be rebuilt or else cease operation of its acute care operations. This would remove

a critical health care component from southeast San Francisco, which the federal government designated as a Medically Underserved Area.

Based on available cost estimates, timelines for new construction approval, and conversations with former staff and consultants, it appears that St. Luke's will:

1. Apply for an extension to the January 1, 2008 deadline by this coming January, and
2. Depending on the total cost of retrofitting its Main Hospital and 1957 Wing, either seek a new site for a complete rebuild in time for a 2013 opening or retrofit the Main Hospital and 1957 Wing to 2008 standards and seek to rebuild at a new location prior to the 2030 deadline.

BACKGROUND

The Alfred E. Alquist Hospital Facilities Seismic Safety Act (HSSA) of 1973 created seismic safety building standards for certain hospitals constructed on or after March 7, 1973 and preempted local building departments from all hospital construction plan review. Thereafter, the Office of Statewide Health Planning and Development (OSHPD, a division of the State Attorney General's Office) reviewed all hospital construction and ensured compliance with the California Building Standards Code¹. Twenty years later, the Northridge earthquake of January 17, 1994 demonstrated that new hospitals built after 1973 sustained very little structural damage, while several hospitals built prior to the act suffered major damage and had to be evacuated.

Enacted in September 1994, SB 1953 extended the 1973 law to all hospitals with 10% or more of their licensed beds in the acute care category², regardless of construction date. SB1953 also authorized OSHPD to create regulations mandating their seismic safety.³

Impacts and Costs

According to OSHPD, there are approximately 2,673 hospital buildings at 470 general acute care facilities statewide that will be impacted by the provisions of SB1953.⁴

An April 2002 report by the RAND Corporation for the California Healthcare Foundation (CHF) found that, in order to meet the requirements of SB1953:

- "50 percent of California's hospital buildings will be retrofitted, reconstructed, or closed over the next 28 years", and

¹ Title 24, California Code of Regulations. From 1973-1991 OSHPD's role was shared with the Division of the State Architect.

² SB1953 specifically defines acute care as "those special care units, intensive care units, coronary care units, angiography laboratories, cardiac catheterization laboratories, delivery rooms, emergency rooms, operating rooms, post-operative recovery rooms and similar areas in which patients are intended to be subjected to invasive procedures and connected to line-operated, electromedical devices."²

³ Bill Analysis SB 1953. Does not apply to hospitals operated or owned by the Department of Corrections or to hospital buildings that provide skilled nursing or acute psychiatric services only.

⁴ Seismic Retrofit Program Overview, available online at <http://www.oshpd.cahwnet.gov/FDD/SB1953/SB1953Overview.pdf>.

- “75 percent of the buildings will undergo nonstructural renovations to improve operational capabilities following a large earthquake.”⁵

RAND has therefore estimated, “that the total expenditures by hospitals may be as large as \$41.7 billion”, though as little as \$3.6 billion can be attributable to actual seismic retrofit costs. The remaining costs are to replace aged infrastructure such as medical furnishings and equipment, parking structures, and heating, ventilation and air conditioning systems.

SB1953 COMPLIANCE DEADLINES

SB1953 introduced two primary deadlines for California hospitals: an interim deadline requiring older hospitals to pose no life-threatening risk of collapse by 2008 and a more comprehensive deadline requiring all hospitals to be constructed according to modern earthquake standards by 2030. The deadlines are designed to be incremental, with the 2030 goal of ensuring that all general acute care hospitals remain operational after a major seismic event.

To meet these goals, SB1953 further defined specific standards for hospital compliance including five Structural Performance Categories (SPC) and six Non-Structural Performance Categories (NPC). These are detailed in Appendix A.

Prior Deadlines: Must Have Submitted Compliance Plans

California hospitals were required to submit seismic evaluations and compliance plans to OSHPD by January 1, 2001.⁶ St. Luke’s Hospital submitted its skeletal 12-page compliance plan nearly a year later on December 21, 2001⁷. Since that deadline, no further actions have been required, as SB1953 regulations do not include interim status reporting requirements.

According to RAND, these compliance plans “provided the first facility-by-facility accounting of earthquake vulnerability in the California health care infrastructure, and they showed that approximately 40 percent of the hospital buildings are considered collapse hazards.”

The Next Deadline: Extension Applications due January 1, 2007

The next deadline hospitals face is January 1, 2007, the deadline to submit all requests for extensions of the January 1, 2008 requirements. After 45 days of public comment, the Facilities Development Division (FDD) of OSHPD must approve or deny the extension.⁸ If the extension is granted, the receiving hospital must submit an updated compliance plan, reflecting its new timeline for meeting requirements and any progress that has been made since the original plan was submitted.

⁵ <http://www.calhealth.org/public/press/Article/103/Final%20RAND%20Report.pdf>

⁶ According to Teresa Smanio, Assistant Director for Legislative and Public Affairs, OSHPD, many hospitals failed to submit compliance plans as required. Phone interview, 04/20/06.

⁷ As did San Francisco General Hospital, which submitted its 7-page plan on December 31, 2001.

⁸ If the extension is denied, the FDD may request that the hospital resubmit the request with additional information. If the extension is again denied, the hospital may appeal to the Hospital Building Safety Board. Before the full board considers the request, OSHPD Deputy Director in charge of the Facilities Development Division, Kurt Schaefer, conducts an informal session with the appellant hospital to attempt to resolve remaining issues. Deputy Director Schaefer was unable to provide an estimate of the timeline for an appeal before the Hospital Building Safety Board because no extension request has yet been fully denied. The few that were initially denied for insufficient information were eventually approved by FDD.

As of December 2005, nearly half of all 470 acute care hospitals (223) had submitted extension requests for the 2008 deadline, and 199 had received extension approvals until 2013. San Francisco General and St. Luke’s Hospitals were not among those that applied for extensions and have until this coming January to do so.

First Significant Deadline: Older Hospitals Must No Longer Be a Collapse-Hazard by January 1, 2008

By the beginning of 2008 hospitals built before seismic standards were passed in 1973 must be upgraded to reduce their risk of collapse or else be removed from service. This includes ensuring that the hospital structure does not pose a life-threatening hazard to occupants (ie, the structure does not collapse and all systems are properly braced) even if a major earthquake renders it unusable.⁹

Final and Most Significant Deadline: All Hospitals Must Meet Current, Revised Seismic Building Codes by January 1, 2030

By the beginning of 2030, all hospitals providing acute care must be constructed according to modern earthquake standards, which are designed to ensure that hospital buildings not only are capable of remaining intact after an earthquake but are also capable of continued operation and provision of acute care medical services. Hospitals must therefore meet the minimum requirements of SPC 3, 4, or 5 and NPC5 in Appendix A.

These deadlines are summarized below in Table 1.

Table 1: SB1953 Deadlines

January 1, 2001	1) Hospital owners must have submitted the results of seismic evaluations for each hospital building to OSHPD for approval. The evaluations must have included structural and nonstructural reports in accordance with Part 1, Chapter 7, Title 24 of the OSHPD regulations. 2) Hospital owners must have submitted a compliance plan, including schedule, for meeting all seismic retrofitting regulations.
January 1, 2002	Any hospital building that continues to provide acute care must meet the requirements of Nonstructural Performance Category (NPC) 2 or cease operation.
January 1, 2007	Deadline to apply for an extension of the January 1, 2008 deadline. Renewal applications are granted in one-year increments up to a total of five years and must demonstrate that, without an extension, “compliance will result in a loss of health care capacity that may not be provided by other general acute care hospitals within a reasonable proximity.” ¹⁰
January 1, 2008	Any hospital building providing acute care must, at a minimum be capable of withstanding a major seismic event without jeopardizing life. Hospitals must therefore meet the requirements of Structural Performance Category (SPC) 2 and

⁹ This includes meeting the minimum requirements of SPC2 and NPC3 described in Appendix A.

¹⁰ California Health and Safety Code Article 9, Section 15097.127

¹¹ 4/07/06 phone interview with Robert Sydnor, Senior Engineering Geologist at the California Geological Survey. Any building constructed after 1973 classified as SPC 3 or 4 may be granted an exemption from this deadline if it will cease general acute inpatient service by January 1, 2013. Application for this exemption must be filed by

	the requirements of NPC 3 or cease operation. ¹¹
January 1, 2013	End of extension period for non-compliant hospitals to meet the requirements of January 1, 2008 or cease operation.
January 1, 2030	Any hospital building providing acute care must meet the building code requirements enacted in 1973 that were designed to ensure continued operation of hospitals after a major seismic event. Hospitals must therefore meet the structural requirements of SPC 3, 4, or 5 and the non-structural requirements of NPC 5 or cease operation.

*Source: SB1953 Regulations Article 1, Chapter 6
<http://www.oshpd.ca.gov/FDD/SB1953/SeismicRegs/ART01.PDF>*

For all SB1953 deadlines, hospitals have until the deadline date to finish required retrofits. OSHPD approval of the construction may extend past the deadline without penalty.¹² After each deadline for which no extension is possible or none has been granted, FDD will inspect hospitals for compliance. If hospitals are unable to meet the requirements at this time, OSHPD will notify the Department of Health Services (DHS). DHS can decline to license the non-compliant facilities for operation.

ST. LUKE’S HOSPITAL

St. Luke’s Hospital (SLH), an affiliate of Sutter Health, is a full-service 260-bed licensed acute care facility with more than 1,400 employees at 3555 Cesar Chavez Street. It has served the lower Mission and South of Market neighborhoods – designated by the federal government as Medically Underserved Areas¹³ – since 1912. SLH offers a full range of services including inpatient and outpatient surgery, labor, delivery, and maternity, a neonatal intensive care unit, and a diabetes and asthma education program. SLH has 147 licensed general acute care beds (3.6% of the citywide total) and manages more than 184,000 patient visits annually.¹⁴

The SLH and California Pacific Medical Center (CPMC) Boards of Directors recently approved a new affiliation agreement to merge with CPMC. This merger is subject to review by the State Attorney General, a decision for which is expected sometime this fall.

St. Luke’s Buildings

SLH consists of 5 buildings on its campus. As of the date of the December 2001 Compliance Plan submitted to OSHPD, the conditions of the five buildings were as follows:

January 1, 2004. If it meets a number of conditions, any acute care hospital located in Seismic Zone 3 may be exempt from the anchorage and bracing requirements of NPC 3. All of San Francisco is located in Seismic Zone 4.

¹² Schaefer, Kurt, 04/20/06.

¹³ This area was designated as a Medically Underserved Area (MUA) April 21, 1982 by the U.S. Department of Health and Human Services. MUAs are determined by scoring four variables: the ratio of primary medical care physicians per 1,000 population, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percentage of the population age 65 or over.

¹⁴ This is approximately 60% of the capacity of San Francisco General Hospital, which in 2005 had 289,822 outpatient visits and 17,874 inpatient visits according to <http://medschool.ucsf.edu/sfgh/Facts/>. See the SB697 Community Benefit Report for January 1, 2003 to December 31, 2004 at http://www.stlukes-sf.org/images/cbr0304_final.pdf for more information on the services offered by St. Luke’s Hospital.

1. The Main Hospital – built in 1967, this 12-story structure was rated SPC1 and NPC1¹⁵ as its systems were inadequately anchored and its structure posed a significant risk of collapse after a strong earthquake. According to the Compliance Plan, Sutter Health expects to upgrade the Main Hospital to the required SPC2 and NPC3 classifications by 2008 and SPC4 and NPC5 by 2030.
2. The 1957 Wing – this 4-story structure houses the emergency room and was rated SPC2 and NPC1. According to the Compliance Plan, Sutter Health expects to upgrade the 1957 Wing to NPC3 by 2008 and SPC4 and NPC5 by 2030.
3. The 1912 Wing – this 2 to 3-story structure is a non-acute care facility on the East End of campus and therefore is not subject to SB1953.
4. The Medical Center – this 8-story medical office building does not house acute care facilities and therefore is not subject to SB1953.
5. The Service Building – this 3-story building contains the power plant and machinery to operate the hospital as well as two stories of office space. The Service Building was rated SPC4 and, according to the Compliance Plan, Sutter Health expects to upgrade it to NPC3 by 2008 and NPC5 by 2030.

St. Luke's Community Outreach

The SLH Community Advisory Board has conducted multiple community information and feedback gathering events with the assistance of MGH Consulting. The events were designed to address concern over the merger of SLH with California Pacific Medical Center (CPMC) and how it would impact the future of service delivery. At present, the results of this process have been assembled into a community information packet that is awaiting approval for distribution.¹⁶

Maria Hernandez, who led the community relations assistance by MGH Consulting, does not currently know when the packet, which contains answers to frequently asked questions including those related to seismic retrofitting, will be available. Turnover in St. Luke's and CPMC administration has delayed the approval process. The advisory board has not created any sort of response to the community feedback or action plan for SLH's retrofitting needs and future plans other than SLH's required 2001 Compliance Plan.¹⁷ Ms. Hernandez's recollection is that the response that hospital officials gave at the public meetings when asked about retrofitting is that the process would begin after the new CPMC hospital planned for Van Ness avenue is approved.¹⁸

St. Luke's to Move?

Jim Strong, the outgoing Chief Financial Officer and Site Administrator for SLH, states that SLH and CPMC are waiting for the California Attorney General to approve the merger. According to Mr. Strong, once this is done, CPMC will then be able to seek approval and

¹⁵ Per SB1953, all NPC1 acute care facilities were required to meet NPC2 requirements by January 1, 2002 or cease operation. St. Luke's Hospital had not completed this bracing requirement as of December 21, 2001 but has presumably since done so. The OLA has not verified with St. Luke's that this was completed.

¹⁶ Phone interview with Maria Hernandez, MGH Consulting, 04/19/06.

¹⁷ Hernandez, Maria, 04/19/06.

¹⁸ Hernandez, Maria, 04/19/06.

financing for a new facility planned to be built on Van Ness Avenue. After these plans are finalized, SLH will be eligible to continue present operations until 2013 without retrofitting.¹⁹ By that time, the new hospital would be available to take over SLH's functions and the current SLH site would then be required to cease acute care functions.²⁰ It is unclear in what capacity SLH and CPMC intend to continue operating SLH after 2013.

The permit history of SLH supports this course of action. According to Senior Architect and Coastal Section Manager Don Harris at OSHPD, the only permit application submitted to OSHPD for SLH since the 2001 Compliance Plan is a 2005 application to anchor an oxygen tank. SLH also has not yet filed for an extension of the 2008 deadline, though they have until this coming January to do so. According to Mr. Harris, bringing the Main Hospital from SPC1 to SPC2 by January 2008 without an approved permit in hand "would probably be difficult."²¹

St. Luke's hospital denies that it has any plans to close the emergency room in the near future. In a July 11, 2005 report to the community, St. Luke's called this,

*"another unfortunate SEIU-sponsored scare tactic. There are no plans to close the St. Luke's emergency room in the near future. In fact, Sutter Health has recently approved spending \$2.5 million to upgrade and expand the St. Luke's emergency room and other areas in the hospital."*²²

Rebuilding is Slow, Expensive

According to Deputy Director of the Facilities Development Division at OSHPD Kurt Schaefer, the state Building and Standards Code supercedes local building codes for all hospital designs and rebuilds. While San Francisco retains land use, zoning, and environmental powers for new hospital sites, OSHPD issues all building permits for new hospital construction. OSHPD's review process for issuing a building permit lasts approximately 12-18 months. Depending on a variety of factors (the size of the hospital to be constructed, the availability of labor and materials, etc.), once the building permit is issued it can take an additional three years or more to complete construction. New hospitals therefore typically require 4.5 years or more from initial plan review to reach final construction.

Building anew is a larger business decision for SLH that involves longer-term planning, site acquisition, state design review, and specific timelines.

Does the Balance Tip Toward Retrofitting?

The RAND Corporation's 2002 report²³ considers the decision to retrofit or replace an individual hospital rated SPC1 (such as St. Luke's Main Hospital) as follows:

¹⁹ Phone interview with Jim Strong, Chief Financial Officer and Site Administrator for St. Luke's Hospital, 04/19/06. Jim Strong left CPMC at the end of April 2006.

²⁰ Strong, Jim, 04/19/06.

²¹ Phone interview with Don Harris, 7/11/06.

²² "Facts About St. Luke's Future." July 11, 2005

²³ "Estimating the Compliance Costs for California SB1953", p. 43. Online at <http://www.calhealth.org/public/press/Article/103/Final%20RAND%20Report.pdf>.

Table 2: Decision-Making Tradeoffs for Rebuilds vs. Retrofits of SPC1 Facilities

Retrofit		Rebuild	
Pro	Con	Pro	Con
- Campus integration is preserved - Construction costs are reduced (~\$30/ft ²)	- Significant business interruption costs - Minimal modernization - Retrofits are replaced by 2030	- Logistics are easier - Facilitates modernization	- Total costs are high (~\$220/ft ²)

Given RAND’s finding that retrofit costs plus business interruption costs can be comparable to the costs of building a new structure, the report concludes that most hospitals are given the economic incentive to rebuild anew rather than retrofit existing buildings. According to the report,

“retrofits in 2001 will be preferable only under a narrow set of circumstances. These include:

- *The full retrofit costs (construction, design, business interruption, etc.) are significantly lower than for reconstruction, and*
- *There may be a business advantage to delaying large-scale reconstruction until 2030.*

These conditions might arise for hospitals that are largely composed of older buildings, which can be easily retrofitted, on campuses with little additional land (i.e., with no space for new structures). Under these circumstances, rebuilding would require a new site for the hospital, and hence a complete redesign, which may take years to complete.”

SLH may fall within this narrow set of circumstances. As noted above, the five buildings at SLH were built between 1912 and 1967 and the current site has limited potential for construction without major business interruption.

In addition, rapidly rising construction costs may further tilt the balance toward retrofitting SLH. Since the RAND report was published in April 2002, increased statewide demand for a limited pool of specialized contractors with expertise in healthcare projects has resulted in total hospital construction costs increasing exponentially. The national construction cost consulting firm Davis Langdon estimates that typical new hospital construction costs in California have risen from \$330/ft² in 2003 to approximately \$550/ft² in 2006, an increase of 66 percent in just three years.²⁴

Conclusion – SLH to Stay, But Likely Not Past 2030

Assuming that SLH does not wish to have a gap in service to its patients, they have until as late as June 2025 to secure a location and begin the permitting process with OSHPD for a new location.

²⁴ “Construction Cost Escalation in California Healthcare Projects – January 2006”, Davis Langdon Consultants. Received via fax from the California Senate Committee on Health. Construction costs are the direct cost of construction, including field labor, materials, general contractor site overhead, and profit and do not include owner related costs such as design, testing, permitting, inspection, furniture, equipment, etc.

From the available information described above, therefore, it seems as though SLH is positioning itself to:

1. seek an extension to the January 1, 2008 deadline by this coming January 1, 2007;
2. retrofit the Main Hospital and 1957 Wing to the required SPC2 and NPC3 by January 1, 2013; and
3. beginning sometime between 2013 and 2025, acquire a new site on which to build a new hospital in time to meet the requirements of the 2030 deadline.

RECOMMENDATION

St. Luke's has avoided publicly stating any plans to move to Cathedral Hill in the near future although staff and consultants have acknowledged that a move is currently under consideration and their permit history and economics are, at a minimum, consistent with this direction. Should the Attorney General approve the merger between CPMC and SLH and the Boards of Directors vote to move to Cathedral Hill, St. Luke's Hospital could be closed completely or could become a clinic without acute care services.

While it is entirely within their rights to relocate, if Sutter Health/SLH/CPMC cannot provide adequate assurances that it intends to maintain sufficient acute care in the southeast neighborhoods of San Francisco, the Board of Supervisors may wish to write a letter to the California Attorney General asking them to deny, or at least delay, St. Luke's proposal to relocate until an adequate plan is put in place to serve this medically-underserved community.

APPENDIX A: SB1953 PERFORMANCE CATEGORIES

OSHPD defines specific seismic requirements in terms of two larger categories: structural (the actual buildings) and non-structural (the medical equipment, power, and communications systems within the buildings). Each category is then further broken down into Structural Performance Categories (SPC) and Nonstructural Performance Categories (NPC) as follows:

Structural Performance Categories are defined as:

- **SPC 1** Buildings that pose a significant risk of collapse and a danger to the public after a strong earthquake.
- **SPC 2** Buildings in compliance with the pre-1973 California Building Standards Code and other applicable standards, but that are not in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act. These buildings will not significantly jeopardize life, but may not be repairable or allow for continued use after a strong earthquake.
- **SPC 3** Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act. In a strong earthquake, they may experience structural damage that does not significantly jeopardize life, but may not be repairable or allow for continued use.
- **SPC 4** Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act that may experience structural damage that could inhibit the building's availability following a strong earthquake.
- **SPC 5** Buildings in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act, and are reasonably capable of providing services to the public following strong ground motion.

Nonstructural Performance Categories are defined as:

- **NPC 1** Basic systems essential to life safety and patient care are inadequately anchored to resist earthquake forces.
- **NPC 2** Essential systems vital to the safe evacuation of the building, including the communications, emergency power, bulk medical gas and fire alarm systems, are adequately braced. The building is expected to suffer significant nonstructural damage in a strong earthquake.
- **NPC 3** Nonstructural systems are adequately braced in critical areas of the hospital. If the building structure is not badly damaged, the hospital should be able to provide basic emergency medical care following the earthquake.

- **NPC-3R** A December 2005 update to NPC 3 that reduces the anchorage and bracing requirements for hospitals slated for replacement or removal from service before January 1, 2030.
- **NPC 4** Nonstructural systems are braced in accordance with current code. If structural damage is not severe, the building should be able to function. Interruption of the municipal water supply or sewer system may impede operations.
- **NPC 5** These buildings meet all the above criteria and have water and wastewater holding tanks—sufficient for 72 hours of emergency operations—integrated into the plumbing systems. They also contain an on-site emergency system and are able to provide radiological service and an onsite fuel supply for 72 hours of acute care operation.

*Source: OHSPD Public Affairs Office
Summary of Hospital Seismic Performance Ratings. April 2001.*