



HOSPITAL SEISMIC SAFETY

Office of Statewide Health Planning & Development

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California state law requires hospitals to evaluate their facilities, develop plans to meet seismic standards and ensure that their buildings are seismically sound.

This bulletin shares the latest news on OSHPD's partnership with the state's approximately 450 acute care hospitals working to meet retrofit deadlines. Also included are recent items that may be of interest to those involved in hospital construction.

To contact OSHPD about this bulletin, call (916) 654-1606.

OSHPD Ombudsman Hotline for hospital construction issues is (916) 653-0288.

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HAZUS - New Technology for Estimating Earthquake Damage

The Hazards U.S. (HAZUS) technology, developed by Federal Emergency Management Agency (FEMA) under cooperative agreement with the National Institute of Building Sciences, is a standardized, national methodology for assessing potential losses from natural hazards. This new technology can be used in earthquake-related mitigation, emergency preparedness, response and recovery planning, and disaster response operations. HAZUS can estimate probability of damage states that range from "minor" to "complete." This state-of-the-art technology:

1. Characterizes earth science hazards including ground shaking, liquefaction, and landslides
2. Estimates damage and losses to buildings and lifelines
3. Estimates fires following earthquakes
4. Estimates casualties, displaced households, and shelter requirements
5. Estimates direct and indirect economic losses

On May 2, 2006, the Office of Statewide Health Planning and Development (OSHPD) staff presented HAZUS to the Hospital Building Safety Board (HBSB). After deliberating, the Board unanimously approved three recommendations:

1. That OSHPD utilize HAZUS to analyze the potential seismic risks associated with all existing SPC 1 hospital buildings.

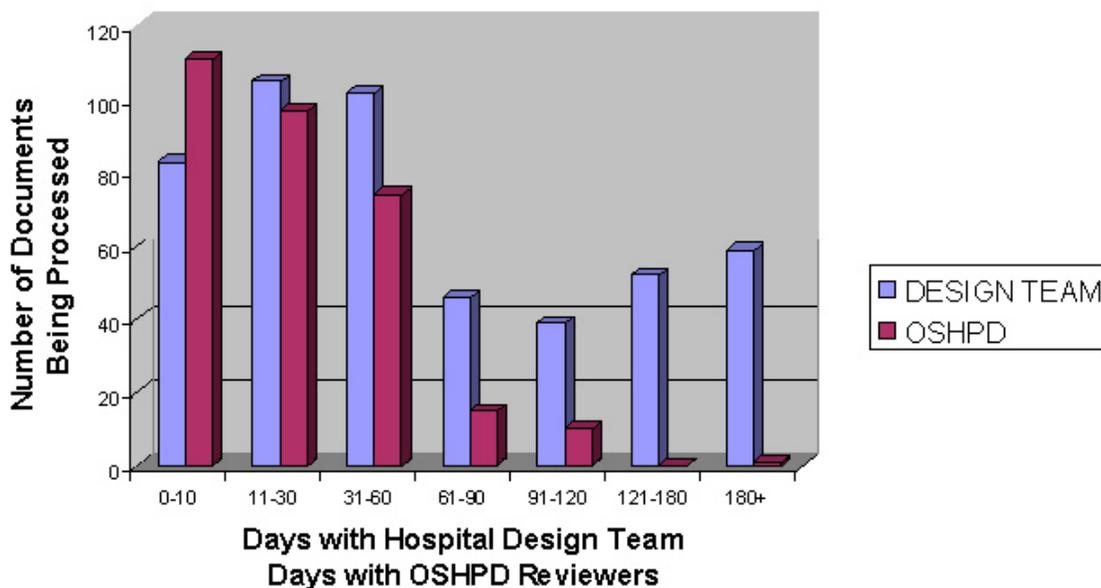
2. Reclassify SPC 1 buildings with 10% or less probability of "complete" damage as SPC 2 and place buildings with a probability of "complete" damage from 10% to 15% in a new SPC 1E category.
3. Establish a date of 2020 for SPC 1E buildings to meet seismic standards.

A number of OSHPD staff have been trained in the use of this new tool and training is ongoing.

The HBSB's Structural Subcommittee was directed to address the details for implementing HAZUS. The Subcommittee met on June 9, 2006, and discussed how to evaluate buildings with structural irregularities, which may make some buildings more vulnerable to earthquake damage. They also discussed how to proceed with the next steps for reassessing SPC 1 hospital buildings.

The evaluation of SPC 1 buildings using HAZUS requires validating the seismic risk of each building. In order to provide quality assurance, OSHPD will contract with an outside consultant to provide peer review of the methodology. The Governor and the Legislature have approved a request for \$100,000 for this consultant.

Age of Documents On 8/10/06



12 Simple Steps Your Hospital Can Take To Expedite The Construction Process With The Office Of Statewide Health Planning And Development (OSHPD) ...And Save Money And Time.

Ombudsman Line

If you have questions or unresolved issues or complaints about OSHPD's Facilities Development Division (FDD), call the Director's **Ombudsman Hotline at (916) 653-0288.**

The line is available 24/7. If you have any questions, leave a voice message. Your call will be returned within two to three working days or as soon as possible. You may also e-mail your questions to: **Ombudsman@oshpd.ca.gov.**

This line is not intended to handle specific questions regarding code interpretation or routine construction questions that should be directed to OSHPD's plan review or field personnel.

LA Office

The Southern California office of FDD is located in the Metropolitan Water District Building in downtown Los Angeles, adjacent to the historic Union Station and within minutes of the region's transportation hubs such as Amtrak, Metrolink, redline (subway) and MTA bus networks. Driving directions and parking in the vicinity may be found at www.mwdh2o.com/mwdh2o/pages/about/union_station_parking_map.pdf.

Visitors must sign in at the reception desk in the central rotunda, where directions to FDD's second floor suite are available.

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1. The hospital should name an employee to function as the Owner's Representative and identify this individual on the Application for Plan Review when submitted to OSHPD. This individual will then receive copies of correspondence between OSHPD and the design team. This does not include sets of plans or specifications.
2. The hospital should do "due diligence" in selecting the design professionals by looking to designers with OSHPD experience on similar projects.
3. The Owner's Representative and the design professionals should have a pre-design meeting with the OSHPD team to discuss scope, building codes, etc. OSHPD prepared CAN 2-34 to assist in this process for remodel projects, however, the planning phase described is a useful guide for new projects as well.
4. Meeting between the design professionals and the OSHPD team should be documented by the design professionals and copies sent to the Owner's Representative and the OSHPD team leader for comments.
5. After the design phase is approximately 75 percent complete, the Owner's Representative and design professionals should meet again with the OSHPD team to help insure a complete and accurate submission of documents the first time.
6. If OSHPD returns the submitted material as "incomplete," the Owner's Representative (initially identified on the Application for Plan Review) will be notified. This applies for all project-related returns.
7. Act on returned/incomplete documents with haste. The Owner's Representative should immediately meet with the design professionals and identify a schedule for the quick return of the revised documents. To expedite this process the design professionals should list all comments by OSHPD by discipline. If appropriate, regularly scheduled meetings or conference calls between the Owner's Representative and the design professionals should be established to discuss progress, problems, and solutions.
8. Change orders should be held to a minimum. If necessary, provide a thorough understanding of what impact the change order will have on other aspects of the project. Consider if it will require additional reviews by OSHPD because the change order is affecting other areas of the project.
9. The design professionals should routinely discuss Fire/Life Safety issues with OSHPD due to the complex nature of the codes. Seemingly minor changes can have profound effects on these systems.
10. When there are differing opinions between the Owner's Representative, the design professionals, the Inspector of Record (IOR) and OSHPD during construction that cannot be resolved immediately, request the OSHPD Regional Compliance Officer to resolve the difference of opinions.
11. Minimize deferred approvals.
12. Build according to the Approved Plan.

Developed by the Association of California Healthcare Districts (ACHD) in collaboration with the Office of Statewide Health Planning & Development (OSHPD)

Inspectors of Record Ensuring Healthcare Construction Standards

As California's hospital construction boom intensifies, perhaps no group is charged more with ensuring that healthcare facilities are constructed to the requirements of the California Building Code and the approved project drawings than the Inspector of Record (IORs).

A common misconception about IORs is that they are OSHPD employees; they are not. IORs are independent hospital inspectors who are certified

by FDD to inspect construction progress with the hospital, the designers, and the Office. They are to ensure that construction proceeds according to approved documents.

Currently, there are approximately 800 Certified Hospital Inspectors. Their assignments are determined by the Hospital Governing Board or by the owner of the facility. They must provide for competent, adequate, and continuous inspection for



Earthquake Notes

Earthquake Survival Prepare Yourself and Your Family Now

Have an earthquake survival kit on hand. All family members should know how to turn off gas, water, and electricity. Plan family emergency procedures, and make plans for reuniting with your family. Know emergency telephone numbers (doctor, hospital, police, 911, etc). Anchor heavy objects to walls (bookcases, wall units, mirrors, cabinets, etc). Never place heavy objects over beds, and keep heavy objects lower than head height of shortest member of family.

Earthquake Survival Kits—Survival Supplies

Water—2 quarts to 1 gallon per person, per day.

First Aid Kit—ample, and freshly stocked.

First Aid Manual—know how to use it.

Food—canned or individually packaged precooked, requiring minimum heat and water. Consider infants, pets, and other special dietary requirements.

Critical medication

Extra eyeglasses

Can opener

Blankets

Radio—portable battery operated, spare batteries

Fire Extinguisher—dry chemical, type ABC

Flashlight—spare batteries and bulbs

Watch or clock—battery or spring wound

Cooking

their assigned construction projects. The IOR is typically recommended by the design professional in charge of the project. Many hospitals issue Requests for Proposals (RFPs) for inspection services to certified hospital inspectors. Independent certified hospital inspectors can contact hospitals that are looking for IORs and propose a bid for inspection of the project.

Substantial construction inspection experience, along with ongoing testing requirements for IORs is necessary for the crucial role they play in the hospital construction process. There are three classes of certification: Class A, Class B, and Class C. Each class has minimum qualifications for examination and certification. IORs are required to pass a renewal examination every three years. In addition, they must have experience involving building projects of Type I or Type II construction as an architect, engineer, owner, local building official, or general contractor's representative in technical inspection or inspection supervision. IORs should have a thorough knowledge of the California Building Code requirements.

The responsibilities of the IOR are thorough and substantial. Those assigned must record all construction activities that occur on site. They are responsible for verifying such items as the seismic anchorage of equipment, the bracing of all mechanical, plumbing, and electrical piping and conduits that require bracing are installed in accordance with the approved documents and installation procedures. The IOR oversees all inspections and witnesses all tests performed by outside inspectors. As the liaison

Obtaining an OSHPD Building Permit

The Office of Statewide Health Planning and Development's Facilities Development Division (OSHPD/FDD) serves as the building department for construction and remodels for all general acute care hospitals, psychiatric hospitals, rehabilitation hospitals and skilled nursing facilities in California. FDD enforces the regulations contained in the California Building Code (CBC), Title 24. This article briefly outlines the process for obtaining a building permit from OSHPD. Plans for construction must be approved and building permits must be issued by FDD prior to any construction on the above referenced healthcare facilities in California.

The Building Standards Administrative Code (Part 1, Title 24, C.C.R.), *Administrative Regulations for the Office of Statewide Health Planning and Development (OSHPD)* contains the complete administrative procedures necessary to obtain OSHPD plan approval, building permit, and final project approval. Part 1, Title 24, C.C.R., can be downloaded free from the FDD Web Site at: www.oshpd.ca.gov/fdd/regulations/index.htm.

between the owner, the Architect of Record/Engineer of Record and OSHPD, the IOR observes and reports the results of each inspection to all responsible parties.

OSHPD has three field classifications that oversee the IOR for hospital construction, the Area Compliance Officer, the Fire Life Safety Officer, and the District Structural Engineer. Each of these has expertise in the areas the IOR inspects during construction.

A successful project requires the IOR to be informed on all construction aspects. This may include pre-installation meetings with the various trades in order to ensure that the documents and code requirements are clear to all parties. In addition, a good working relationship with the contractors and professionals responsible for the design is of the utmost importance.

With construction increasing, it has become difficult to recruit experienced IORs for projects. Most IORs stay on a project until a certificate of occupancy is issued and the project is closed. With most of the experienced IORs working on projects that limit them from taking on additional projects, an increasing reliance on newly licensed IORs is a necessity.

As the eyes and ears of OSHPD in inspecting the construction of healthcare facilities, OSHPD relies on the IORs observations and the reports they file on construction projects.

Obtaining a Building Permit

The construction process begins with the obtaining of a building permit. Construction documents, prepared by the design professional of record, are submitted to the appropriate FDD Plan Review Section. FDD's Plan Review Sections are staffed by architects, fire life safety officers, electrical, mechanical, and structural engineers. Submitted plans are reviewed for compliance with the applicable requirements. If corrections are necessary, the reviewed plans are returned to the design professional of record for correction then resubmitted to FDD. Plan review times vary based on the size, scope, and complexity of the submitted project. One component that often slows plan approval is that when FDD returns the plans to the design team

for correction, the plans often remain with the design professional of record for an extended period of time before being resubmitted to FDD. Part 1, Title 24, C.C.R., states that "procedures leading to obtaining written approval of final plans and



Earthquake preparedness tips, continued.

- Barbecue**—use outdoors only—charcoal and lighter, or Sterno stove.
 - Plastic bags**—Various sizes, sealable pots (at least two) paper plates, plastic utensils, and paper towels.
 - Sanitation**—Large plastic trash bags for trash, waste, water protection.
 - Ground cloth**
 - Large trash cans**
 - Hand soap**—liquid detergent, shampoo.
 - Toothpaste**—toothbrushes, dental floss.
 - Deodorant**
 - Feminine supplies**
 - Infant supplies**
 - Toilet paper**
 - Powdered chlorinated lime**—to add to sewage to disinfect and keep insects away.
 - Newspapers**—to wrap waste, garbage; may also be used for warmth.
- For more information go to:** www.ceri.memphis.edu/public/survival.shtml.
- University of Memphis Center for Earthquake Research and Information**
- Seismic Safety Extensions:**
If you have questions on the seismic safety extensions, or would like an extension application, visit: www.oshpd.ca.gov/fdd/forms/App2008Extension-Delaycompliance.pdf call or write to:
Attention: Seismic Safety Extension Program
Office of Statewide Health Planning & Development
Facilities Development Division
1600 Ninth Street, Room 420
Sacramento, CA 95814
(916) 654-3362

specifications shall be carried to conclusion without suspension or unnecessary delay. The application shall become void when prints from corrected plans or corrected original plans are not filed for recheck within six months after the date of return of checked plans to the architect or engineer.”

Completed plan review for complex projects, such as new hospital campus construction, ranges from 12 to 18 months. Small projects, such as minor remodels and equipment replacement, can be approved in one day and averages less than 30 days. Plan review time for completion of intermediate projects averages six months.

The design professional of record in charge of the work prepares a testing, inspection, and observation program (TIO), which is submitted to OSHPD for approval prior to the issuance of the building permit. The TIO program is submitted with the construction plans during the initial plan review submittal. It lists all of the tests, inspections, and observations that must be performed during construction, who performs them, and who observes them. The permitting process begins upon the issuance of a plan review approval letter to an applicant by FDD’s Plan Review Section.

Commencing Construction

Construction cannot commence until the health facility has applied for and obtained the following from OSHPD: (1) written approval of the plans and specifications, (2) a building permit, and (3) written approval of the testing, inspection, and observation program.

Application forms for plan review and building permits, as well as a testing, inspection, and observation program form are available on the OSHPD Web site at: www.oshpd.ca.gov/fdd/forms/index.htm.

Applicants without computer access can contact

Upcoming Seminars

The Facilities Development Division will be conducting a series of OSHPD Fire Life Safety Seminars in 2006/2007:

August 24th & 30th: Field Operations

November: Central Plant

January/February: Fire Protection Features in Healthcare Facilities.

Information will be posted on our Web site at www.oshpd.ca.gov/fdd/events. You can also e-mail questions to FDDseminars@oshpd.ca.gov.

FDD to have the forms mailed or faxed to them. Each application form comes with detailed instructions on how to complete and submit the form. Once submitted, the application for building permit, the application for inspector of record, and the testing, inspection, and observation program forms receive a thorough examination for accuracy and completeness prior to issuance of a building permit by the regional compliance officer. Documents will be returned to the applicant for correction if any pertinent data or signatures are missing. Common errors include missing signatures, and information, and lack of proof of workers compensation insurance. These omissions can result in delays in issuance of the permit, and ultimately a delay in the start of construction.

Title 24 regulations also allow facilities the option of applying for annual building permits, which are extremely popular. They allow facilities to engage in multiple, minor, low-cost projects throughout the year, while paying only one fee. The annual building permit fee is \$250 for skilled nursing facilities and \$500 for general acute care facilities. For skilled nursing facilities, the cost of projects constructed under an annual building permit may not exceed an accumulated total construction cost of \$25,000. The cost of construction projects may not exceed an accumulated total cost of \$50,000 for general acute care, psychiatric, and rehabilitation hospitals. After issuance, the annual building permit is valid during one fiscal year, July 1 to June 30. Annual Building Permit application forms can be accessed at the same Web site location as the other building permit forms.

When the regional compliance officer issues a building permit, copies are forwarded to the applicant, the design professional of record, the inspector of record, and the region’s area compliance officer. Facilities wishing to track the status of their plan approvals and permit issuance may access OSHPD’s Internet project tracking Web site at www.oshpd.ca.gov/logbook/

California Healthcare Foundation Reports

The California Healthcare Foundation recently released a report entitled Best Practices for Project Management, Design, and Construction of Buildings Under OSHPD Jurisdiction. This report can be viewed at:

www.chcf.org/documents/hospitals/HospitalBuildingBestPractices.pdf.