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## **HOSPITAL BUILDING SAFETY BOARD Instrumentation Committee**

**Thursday, October 27, 2022  
10:00 a.m. – 4:00 p.m.**

**Teleconference Meeting Access:**  
[HBSB Teams Instrumentation Committee](#)  
Access Code: 165-349-325

### **Committee Members Present**

Marshall Lew, Chair  
Bruce Clark, Vice Chair  
Jim Malley  
Farzad Naeim  
Jennifer Thornburg

### **HCAI Staff Present**

Roy Lobo  
Erol Kalkan  
Ali Sumer  
John Gray

### **Consulting Members Present**

Hamid Haddadi  
Moh Huang  
Tony Shakal

### **HBSB Staff Present**

Veronica Yuke  
Evelt Torres

#### **1. Call to order and Welcome**

Marshall Lew, Committee Chair, called the meeting to order on October 27, 2022, at 10:00 a.m., and Veronica Yuke called roll.

#### **2. Roll Call and Meeting Advisories/Expectations**

Five members of the Committee present constitute a quorum. As there being eight members present at the time of the roll call, a quorum was established.

Ms. Yuke read the public announcement regarding COVID-19, meeting rules and

1 procedures.

2  
3 **3. Annual update to the Committee regarding the California Strong Motion**  
4 **Instrumentation Program (CSMIP)**

5 **Presenter:** Erol Kalkan, HCAI

6 Mr. Kalkan spoke on the requirements for hospital instrumentation, which were owner-  
7 paid instrumentation and HCAI-paid instrumentation. Owner-paid instrumentation is  
8 required by California Building Code (CBC) for new buildings and buildings approved  
9 through Alternate Means of Compliance for the Lateral Force Resisting System, Seismic  
10 isolation, and Damping systems. Mr. Kalkan added that for HCAI-paid instrumentation,  
11 the requirements were that HBSB recommends one structure per year for  
12 instrumentation.

13  
14 Mr. Kalkan gave the criteria for HBSB building instrumentation selection:

- 15 • Proximity to fault capable of generating earthquake  $M > 6.5$  and sites with high  
16 probability of seismic events
- 17 • Non-standard structural systems
- 18 • Adjacent to other buildings with pounding probability
- 19 • Buildings with irregularities
- 20 • Tall interstory heights
- 21 • Seismically retrofitted buildings (VSI) & HAZUS / SPC-4D
- 22 • Soil type (soft soils)
- 23 • Lack of instrumented buildings in the geographic area

24  
25 Mr. Kalkan stated the criteria for owner-required instrumentation:

- 26 • Structures with Passive Energy Dissipation Systems
- 27 • Structures with Seismic Isolation Systems
- 28 • Other structures of conventional lateral force resisting systems (LFRS) with  
29 alternate methods of compliance.
- 30 • Structures with lateral system not listed in ASCE 7 Table 12.2-1

31  
32 Mr. Kalkan gave a progress report stating that there were a total of 16 hospitals  
33 instrumented between FY 20- FY 22.

- 34 • Three are completed, HCAI funded: Downey – Kaiser Hospital Tower

Expansion, Greenbrae – Marin General Hospital, and San Bernardino – St. Bernardine Hospital

- Nine were underway: Long Beach – Miller Children’s Hospital, Whittier – Presbyterian Intercommunity Hospital, San Jose – Santa Clara Valley Hospital, Loma Linda – University Medical Center, Los Angeles – Hollywood Presbyterian MC, Marina Del Rey – Cedars-Sinai Medical Center, La Jolla – Scripps Tower II, San Diego – Sharp Metropolitan MC New Tower, and Irvine – UC Irvine Medical Center New Hospital
- Four new approved for instrumentation – owner funded: San Diego – Scripps Mercy Tower (Acute care hospital), Harbor - UCLA Medical Center, San Francisco – UCSF Parnassus (Acute care hospital), and Los Angeles – Cedars Sinai (Patient Tower)

## **Discussion**

Mr. Clark suggested that in the upcoming White Paper, HCAI should prepare a short press release on reports and earthquakes. Mr. Kalkan said that was a great idea and HCAI would do that.

Mr. Lew asked if HCAI could release a short press conference on the San Jose earthquake. Mr. Kalkan said that the earthquakes are not explained as there are several channels that the information has to go through before a press release can be given

## **Informational and Action item**

- None

## **4. Review of the Fiscal Year 2021-22 HCAI/CSMIP Hospital Instrumentation**

### **Annual Report by the California Strong Motion Instrumentation Program**

**Presenter:** Hamid Haddadi, Consulting Member

Mr. Haddadi mentioned the three types of hospital instrumentation:

- Type 1- HCAI-Funded Regular Instrumentation of Hospitals
- Type 2 - Owner-Funded Instrumentation of New Hospitals with CSMIP Guidance and Assistance
- Type 3- Owner-Funded Instrumentation of Retrofitted Existing Hospitals with CSMIP Guidance and Assistance

Mr. Haddadi gave updates on Type 1 (HCAI-funded) hospital instrumentation:

- Long Beach – Miller Children’s Hospital (Pediatric Inpatient Addition) -marked sensor locations on 4/21/2022, ready for installation, waiting for contractor’s amendment.
- Whittier – Presbyterian Intercommunity Hospital- Planned to be instrumented Jan-Feb 2023.
- San Jose – Santa Clara Valley Hospitals - Waiting for hospital’s contractor to clear the blocked conduit.

On Type 2 (owner-funded new) hospital instrumentation, three hospitals were fully instrumented. Mr. Haddadi listed five other hospitals where instrumentation was in progress:

- Los Angeles - Hollywood Presbyterian Medical Center - Waiting for the contractor to install.
- Marina Del Rey – Cedars-Sinai Medical Center Replacement Hospital- Construction scheduled to be completed by 2026.
- La Jolla – Scripps Tower II – waiting for contractor
- San Diego – Sharp Metropolitan Medical Center New Tower
- Irvine – UC Irvine Medical Center New Hospital

Mr. Haddadi said that only one hospital was under Type 3 (owner-funded, retrofitted existing) hospital instrumentation, San Bernardino – St. Bernardine Hospital (Central Tower).

Mr. Haddadi added that CSMIP had already spent \$143,068.19 of the previous year’s budget on the postponed projects from FY19-20 and FY20-21 and planned to spend the additional remaining budget on new instrumentation. Currently, HCAI and CSMIP are working on an amendment to the contract to allow CSMIP to spend the remaining budget on the contract.

Mr. Haddadi remarked that CGS received approval for the statewide strong motion instrumentation upgrade. He added that 805 recorders or sensors needed to be upgraded, and of those, 67 were HCAI-sponsored stations. Mr. Haddadi mentioned that 73 stations required re-instrumentation, that is wiring and new recorders. 190 stations needed SSA recorder replacements.

Mr. Haddadi mentioned projects that were on-going and were related to real-time structural monitoring:

- CSMIP Real-Time Data Center

- Pilot Project: Real-Time Monitoring of Hospitals - Santa Rosa – Kaiser Hospital and Lancaster - Antelope Valley Hospital

## **Discussion**

Mr. Kalkan asked about the data timeline from the two hospitals. Mr. Haddadi answered that real-time data from the two hospitals would be ready in a couple of weeks.

Mr. Lew asked if all the data was being sent through selective channels. Mr. Haddadi answered that if HCAI wanted to receive data from all channels, an upgrade would be needed for bandwidth and technology.

Mr. Lew asked what was the current means of communication. Mr. Haddadi replied that cell phone was the means of communication, but HCAI could consider CalOES Microwave telecommunication for early earthquake warning or DSL.

Mr. Lobo asked if there would be challenges for a new hospital building to go through DSL instead of the hospital real-time updates. Mr. Haddadi said that DSL could be an option if it were available but the set up would be a bit costly.

Mr. Kalkan asked if 5G coverage would be an option. Mr. Haddadi stated that 5G would be used if available and would be upgraded in the contract with HCAI.

## **Information and Action item**

- None.

## **5. Finalize the draft white paper on “The Benefits of Strong-Motion Instrumentation in Hospital Facilities”**

**Presenter:** Marshall Lew, Committee Chair, and Farzad Naeim, Committee Member

## **Discussion**

These were the modifications made to the White Paper draft:

- Page 6 of 30, Figure 6 (a) – photoshopped off the logos to blur out product names
- Page 8 of 30, Figure 8 – changes made to the verbiage of the graphic/logo caption
- Page 9 of 30, First paragraph – language changes and sentence shortening
- Page 10 of 30 – Changes to the footnotes formatting, dropping it down a few more points
- Page 13 of 30, Second paragraph – the terminology changed from “fragility”

to “engineering” functions

- Page 14 of 30, Figure 12 – changes made to the graphic footers and diagrams explanations
- Page 17 of 30 – Language changes to the second paragraph made to correct run-on sentence. Changes made in the fourth paragraph, regarding where the information was processed, and the website provided.
- Page 18 of 30 – Alterations to the verbiage of some of the figure titles to provide more information. Additionally, language changes in Figure 17 captions. Language changes in the last paragraph.
- Page 19 – changed reference number 11 on the second paragraph and the footnote
- Page 21 of 30 – Punctuation changes to first paragraph
- Page 22 of 30, Chapter 6 – changed the title of the chapter. Changed wording to paragraph four (the numbered list)
- Page 23 of 30 – Changed the third paragraph from the top “The Big One.” Removed all the acronyms of the state agencies in the last paragraph of the page.
- Page 25 of 30 – Changed the second paragraph that includes the verbiage of telecommunication systems. Language changes to the last paragraph.
- Page 26 of 30 – Changed the first paragraph and edited some wording. Slight changes were made to the wording in the third paragraph.
- Mr. Lew suggested the addition of an acknowledgment section to recognize members of the public who helped with the White Paper.

#### **Information and Action item**

- None.

#### **MOTION: [Naeim/Malley]**

The board unanimously voted to approve the final White Paper draft with modifications and present it to the full board.

#### **6. Comments from the public/committee members on issues not on this agenda**

**Presenter:** Marshall Lew, Committee Chair

Mr. Lew announced that his second term on the HBSB would be ending in May 2023.

#### **Discussion**

1       • None

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3       **Information and Action item**

4       • None.

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6       **6. Adjournment**

7       Mr. Lew adjourned the meeting on October 27, 2022, at approximately 12:19 p.m.