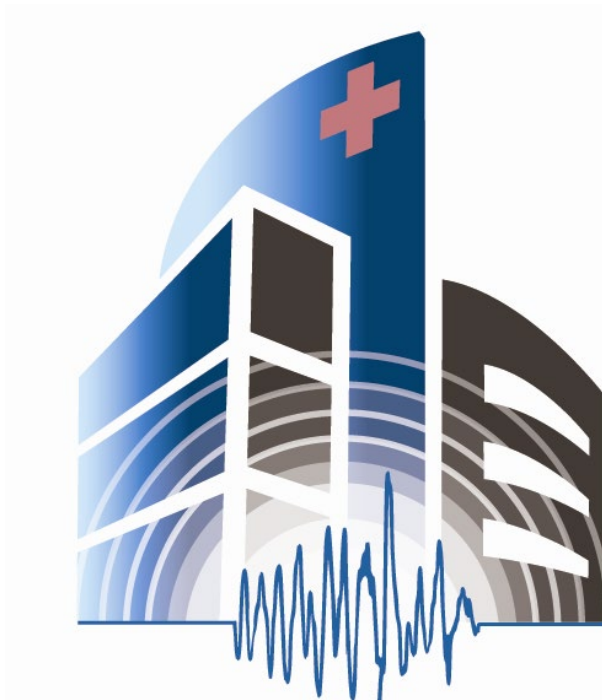


Hospital Building Safety Board

Full Board Meeting
August 11, 2022



***** SPECIAL NOTICE *****

This meeting will be held in-person at the Department of Health Care Access and Information (HCAI) offices in Los Angeles and Sacramento, as well as by teleconference.

Members of the Board and members of the public may fully participate from their own locations.

Microsoft Teams:

For best results, please use Google Chrome or Microsoft Edge browsers to join meeting.

Join on your computer or mobile app

- [Click here to join the meeting](#)
- Or copy and paste the following link into your browser:
https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGY5ZGRIMWItYTJjYS00OTBjLThkMTgtNWUyODMwNTY4ZmU0%40thread.v2/0?context=%7b%22Tid%22%3a%2228891a93-888f-489f-9930-e78b8f733ca6%22%2c%22Oid%22%3a%224afdc7d5-a51c-4637-9e27-755fa3a30732%22%7d

Or call in (audio only)

- +1 (916) 535-0978 United States, Sacramento
- Enter Conference ID: 397 546 304#

Or join with a video conferencing device

- 576732194@t.plcm.vc
- Video Conference ID: 111 527 571 5
- [Alternate VTC instructions](#)

Locations:

HCAI Los Angeles
355 South Grand Avenue, Suite 2000
Los Angeles, CA 90071

HCAI Sacramento
2020 West El Camino Avenue, Suite 900
Sacramento, CA 95833



2020 West El Camino Avenue, Suite 800
 Sacramento, CA 95833
hcai.ca.gov



***** SPECIAL NOTICE *****

This meeting will be held in-person at the locations noted below, as well as by teleconference. Board members and members of the public may fully participate from their own locations.

NOTICE OF PUBLIC MEETING
HOSPITAL BUILDING SAFETY BOARD
Full Board Meeting

Appointed Members

Louise Belair, Chair
 David Bliss, Vice Chair
 Bruce Clark
 Deepak Dandekar
 Michael Foulkes
 Mike Hooper
 Scott L. Jackson
 David Khorram
 Michele Lampshire
 Marshall Lew
 Scott Mackey
 Jim O. Malley
 Farzad Naeim
 Bruce Rainey

Director-Appointed Ex-Officio Members

Bert Hurlbut
 Michael O'Connor

Date:

Thursday, August 11, 2022
 9:00 a.m. – 3:00 p.m.

****PLEASE NOTE EARLY START TIME****

Locations:

Department of Health Care Access
 and Information
[2020 West El Camino Avenue, Suite 900](#)
[Sacramento, CA 95833](#)

Department of Health Care Access
 and Information
[355 South Grand Avenue, Suite 2000](#)
[Los Angeles, CA 90071](#)

Teleconference Meeting Access:
[HBSB Teams Full Board Meeting](#)

Ex-Officio Members

Elizabeth Landsberg
 HCAI Director

Mike Richwine
 State Fire Marshal

VACANT

State Geologist
 Jennifer Thornburg (Delegate)

Mia Marvelli

Building Standards Commission
 Executive Director

Tomás J. Aragón, M.D., Dr. P.H.
 Dept. of Public Health Director
 Nathaniel Gilmore (Delegate)

Chris Tokas

Facilities Development Division,
 HCAI
 Deputy Director

Executive Director

Ken Yu

For more detailed instructions on joining or attending the meeting, see pages 4 – 5.

AGENDA

Item	Subject	Facilitator
1	Call to Order and Welcome	Louise Belair, Board Chair (or designee)

Item	Subject	Facilitator
2	Roll Call and Meeting Advisories/Expectations <ul style="list-style-type: none"> • Determination of quorum • Conduct of Meeting 	Ken Yu, HBSB Executive Director (or designee)
3	Department of Health Care Access and Information (HCAI) Update <ul style="list-style-type: none"> • Swearing-in Ceremony for new HBSB members: <ul style="list-style-type: none"> ○ Cody Bartley, General Contractor Representative ○ John Griffiths, Electrical Engineer Representative • Recognition of outgoing HBSB members: <ul style="list-style-type: none"> ○ Pete Kreuser, General Contractor Representative ○ Roy Lopez, Electrical Engineer Representative • Acknowledgment of second-term appointment of Scott Jackson, Fire/Life Safety Representative • HCAI Update • Discussion and public input 	Elizabeth Landsberg, HCAI Director (or designee)
4	Nominations for HBSB Chair and Vice-Chair Kick Off <ul style="list-style-type: none"> • Review of the nomination process for HBSB Chair and Vice-Chair • Nominating Committee presents slate of candidates • Committee invites nominations from the floor • Discussion and public Input 	Michael Foulkes and Michael O'Connor, Nominating Committee (or designees)
5	Overview and approval of the April 28, 2022 Full Board draft Meeting Report/Minutes <ul style="list-style-type: none"> • Discussion and public input 	Louise Belair, Board Chair (or designee)
6	Instrumentation Committee <ul style="list-style-type: none"> • Overview and approval of the April 15, 2022 draft Meeting Report/Minutes • Overview of the July 5, 2022 meeting • Update on the draft white paper: <i>Seismic Instrumentation of Healthcare Facilities</i> • Discussion and public input 	Marshall Lew, Committee Chair (or designee)
7	Codes and Processes Committee <ul style="list-style-type: none"> • Overview and approval of the following draft Meeting Report/Minutes: <ul style="list-style-type: none"> ○ May 12, 2022 ○ July 14, 2022 • Discussion and public input 	Michael O'Connor, Committee Chair (or designee)

Item	Subject	Facilitator
8	Education and Outreach Committee <ul style="list-style-type: none"> • Overview and approval of the May 25, 2022 draft Meeting Report/Minutes • Discussion and public input 	Mike Hooper, Committee Chair (or designee)
9	Energy Conservation and Management Committee <ul style="list-style-type: none"> • Overview and approval of the June 14, 2022 draft Meeting Report/Minutes • Discussion and public input 	Scott Jackson, Committee Chair (or designee)
10	Structural and Nonstructural Regulations Committee <ul style="list-style-type: none"> • Overview and approval of the June 22, 2022 draft Meeting Report/Minutes • Discussion and public input 	Jim Malley, Committee Chair (or designee)
11	Facilities Development Division (FDD) Update <ul style="list-style-type: none"> • Workload and performance • Personnel changes • Discussion and public input 	Chris Tokas, FDD Deputy Director (or designee)
12	Inspection Services Unit Update <ul style="list-style-type: none"> • Inspection Services Unit to provide an update on accomplishments year-to-date • Discussion and public input 	Joe LaBrie, FDD Inspection Services Unit Supervisor (or designee)
13	Building Standards Unit Update <ul style="list-style-type: none"> • Building Standards Unit to provide an update on accomplishments year-to-date • Discussion and public input 	Richard Tannahill, FDD Deputy Division Chief (or designee)
14	Structural Services Section Update <ul style="list-style-type: none"> • Structural Services Section to provide an update on accomplishments year-to-date • Discussion and public input 	Roy Lobo, FDD Principal Structural Engineer (or designee)
15	Fire Prevention Unit Update <ul style="list-style-type: none"> • Fire Prevention Unit to provide an update on accomplishments year-to-date • Discussion and public input 	Nanci Timmins, FDD Chief Fire Life Safety Officer (or designee)
16	HBSB Chair and Vice-Chair Election <ul style="list-style-type: none"> • Board Members will vote to elect a Chair and Vice-Chair who will officially take office on January 1, 2023 • Discussion and Public input 	Michael Foulkes and Michael O'Connor, Nominating Committee (or designees)

Item	Subject	Facilitator
17	<p>Comments from the Public/Board Members on issues not on this agenda</p> <p>The Board will receive comments from the Public/Board Members. Matters raised at this time may be taken under consideration for placement on a subsequent agenda.</p>	<p>Louise Belair, Board Chair (or designee)</p>

The Board may take action under any agenda item. Every effort will be made to address each agenda item as listed. However, the agenda order is tentative and subject to change without prior notice. A 30 to 60-minute lunch (if needed) may be taken some time during the day. For further information about this meeting, please contact Evett Torres at (916) 440-8453, evett.torres@hcai.ca.gov, or sending a letter to 2020 West El Camino Avenue, Suite 800, Sacramento, CA 95833. This agenda and other notices about meetings are posted on the Internet at <https://hcai.ca.gov/construction-finance/hbsb/>.

Individuals with disabilities may request an accommodation or modification to observe or participate in the meeting by contacting Evett Torres as stated above. Providing your request at least five (5) business days before the meeting will help ensure availability of the requested accommodation.

Future Full Board meeting is scheduled for:

- December 7 – 8, 2022

Board/committee members and members of the public, including HCAI staff, are encouraged to join the meeting and provide public comment virtually through Microsoft Teams.

Masks or face coverings are strongly recommended to everyone attending the meeting in person, regardless of vaccination status.

Microsoft Teams:

For best results, please use Google Chrome or Microsoft Edge browsers to join meeting.

You are NOT required to identify yourself or provide other information to attend or participate in this meeting. If Microsoft Teams requires a name, you may enter “Anonymous.” You may also input fictitious information for other requested information if required to attend the meeting (e.g., anonymous@anonymous.com).

Join on your computer or mobile app

- [Click here to join the meeting](#)

- Or copy and paste the following link into your browser:
https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGY5ZGRIMWItYTjYYS00OTBjLThkMTgtNWUyODMwNTY4ZmU0%40thread.v2/0?context=%7b%22Tid%22%3a%2228891a93-888f-489f-9930-e78b8f733ca6%22%2c%22Oid%22%3a%224afdc7d5-a51c-4637-9e27-755fa3a30732%22%7d

Or call in (audio only)

- +1 (916) 535-0978 United States, Sacramento
- Enter Conference ID: 397 546 304#

Or join with a video conferencing device

- 576732194@t.plcm.vc
- Video Conference ID: 111 527 571 5
- [Alternate VTC instructions](#)

Sacramento Office:

Free parking is available around the building. Please do not park in reserved spaces.

Los Angeles Office:

You may take public transportation via:

- The Red or Purple Lines to Pershing Square
- The B Dash bus to Financial District (on Alameda St)
- The Commuter bus at Patsaouras Plaza (Stop# 3)

Public parking locations in the area:

- 330 S. Hope Street - Wells Fargo Center
 - On Site; \$4.40 for each 10 minutes/\$44 for 10 hours
- 465 S. Flower Street - Westin Bonaventure Garage
 - .12 Miles; \$20
- 530 S. Grand Avenue - Pac Mutual Building Garage
 - .15 Miles; \$25
- 601 W. 5th Street - Cal Edison Building
 - .18 Miles; \$18
- 625-631 S. Olive Street - Crown Plaza Garage
 - .23 Miles; \$10
- 523 S. Olive Street - Pac Mutual Building Garage
 - .24 Miles; \$16

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HCAI Update

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New HBSB Members

General Contractor Representative:

Cody Bartley is a general contractor with over 15 years of experience. He has a Bachelor of Science in Construction Management from Colorado State University and is a LEED Accredited Professional. Mr. Bartley has worked for DPR Construction for over 12 years and is currently the Healthcare Core Market Leader of DPR Construction's Sacramento preconstruction guidance team.

Mr. Bartley has worked closely with HCAI on various projects, including the University of California San Francisco Medical Center in Mission Bay and the University of California Davis Health Hospital in Sacramento. He also participated in the 2019 HCAI/HBSB Seminar "Remodel Plus: Clear Paths to Success & Working with Unknowns" as a subject matter expert.

Electrical Engineer Representative:

John Griffiths, EE, is a licensed electrical engineer with 30 years of experience. He is the Managing Principal of CONTECH-CA with an extensive portfolio of healthcare projects, including the new Stanford Hospital, Kaiser San Leandro, and Marin General Hospital.

Mr. Griffiths has held senior positions at some of the world's major engineering firms, including Mazzetti and Arup. He has extensive design experience in healthcare and mission critical design, emergency power systems, distributed generation, and fire alarm and life safety systems.


Mr. Griffiths is a Chartered Engineer with the Chartered Institution of Building Services Engineers, an active member of the California Society of Healthcare Engineers, and a consulting member of the Hospital Building Safety Board, Energy Conservation and Management Committee.

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Full Board

Draft Meeting Report/Minutes

April 28, 2022

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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



HOSPITAL BUILDING SAFETY BOARD Full Board Meeting

Thursday, April 28, 2022
10:05 a.m. – 4:00 p.m.

Teleconference Meeting Access:

[HBSB Teams Full Board Meeting](#)

Access Code: 797-666-93

Appointed Members Present

Louise Belair, Chair
David Bliss, Vice-Chair
Bruce Clark
Deepak Dandekar
Michael Foulkes
Mike Hooper
Scott Jackson
David Khorram
Marshall Lew
Scott Mackey
Jim Malley

**Director-Appointed
Ex-Officio Members Present**

Bert Hurlbut
Michael O'Connor

Statutory Ex-Officio Members Present

Elizabeth Landsberg, HCAI Director
Chris Tokas, FDD Deputy Director
Jennifer Thornburg
Nathaniel Gilmore

HCAI Staff Present

Richard Tannahill
Arash Altoontash
Joe LaBrie
Roy Lobo
Nanci Timmins
Chris Davis
Michele Church-Reeves

HBSB Staff Present

Ken Yu, Executive Director
Evet Torres

- 1 **1. Call to Order and Welcome**
- 2 Louise Belair, Board Chair, called the meeting to order on April 28, 2022, at 10:05 a.m.,
- 3 and HBSB Executive Director, Ken Yu called roll.

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

2 Nine members of the Board present constitute a quorum. There being eleven present at
3 the time of roll, a quorum was established.

4 Mr. Yu read the meeting rules and procedures.

5

6 **3. Department of Health Care Access and Information (HCAI) update**

7 **Presenter: Elizabeth Landsberg, HCAI Director**

8 Ms. Landsberg gave updates on bills and budget proposals. In particular:

- 9 • The Office of Health Care Affordability – to be completed by the end of 2022
- 10 • Labor Welfare Director Association – \$1.7 billion workforce initiatives to recruit,
11 train and certify community health workers
- 12 • Reproductive health capital and clinical infrastructure proposal – for funds for
13 scholarship, and loan repayments for healthcare workers who provide
14 reproductive health services
- 15 • Community-benefit funding proposal
- 16 • Staffing and funding to implement SP-395 – 10% of the e-cigarette tax will fund
17 small and rural hospital relief programs
- 18 • The California Affordable Drug Manufacturing Act – Cal Rx program

19

20 **Discussion and Input**

21 Mr. Bliss commended HCAI’s involvement in hospitals, increasing travel rates for health
22 workers and assisting small and critical hospitals to achieve seismic certification.

23 Ms. Belair asked for elaboration on bills on seismic compliance. Ms. Landsberg stated
24 that there are six bills, two deal with individual hospitals, one deals with 2020 standards,
25 one deals with the 2030 standards, and two deal with the retrofit cost.

26

27 **Informational and Action item**

- 28 • None

29

30 **4. Letter of acknowledgement from Paul Coleman to the Board**

31 **Presenter: Ken Yu, HBSB Executive Director**

32 Mr. Yu reported that on April 9, 2021, the board approved a letter of commendation to
33 Paul Coleman, former deputy director. On January 25, 2022, Mr. Coleman wrote a letter

1 of acknowledgment to the board. In the letter, Mr. Coleman thanked the board for
2 working with him to achieve his goals for HCAI.

3

4 **Discussion and Input**

- 5 • None

6

7 **Informational and Action item**

- 8 • None.

9

10 **5. Overview and approval of the December 8 – 9, 2021 Full Board Draft meeting** 11 **report/minutes**

12 **Presenter:** Louise Belair, Board Chair

13 Ms. Belair reviewed:

- 14 • HCAI program updates; the transition of the California Healthcare Workforce
15 Policy commission into a Graduate Medical Education and Training Council,
16 2020 seismic standard under the AB 2190 extension program, and budget
17 updates.
- 18 • Proposed ASCE-7-22 multi-period response spectra looked at a case study on
19 the Los Angeles metropolitan area.
- 20 • Inspection Unit Service update – review of IOR certification, eTIO detailed
21 process, and Field Staff Onboarding Curriculum development.

22

23 **Discussion and Input**

24 Mr. Lew and Mr. Mackey noted corrections that needed to be made to the meeting
25 report.

26

27 **Informational and Action item**

- 28 • None.

29

30 **MOTION: [Jackson/Foulkes]**

31 The board unanimously voted to approve the December 8-9, 2021 Full Board draft
32 report/minutes with corrections noted.

33

1 **6. Technology and Research Committee**

2 **Presenter:** Michael Foulkes, Committee Vice Chair

3 Mr. Foulkes gave an overview of the November 10, 2021 draft meeting report/minutes.
4 The topics discussed were:

- 5 • Power P.I.O.N.E.E.R – there was a presentation of pilot projects, an overview of
6 technology utilized for the projects, and a review process for faster technology
7 deployment
- 8 • Waste to energy – turning hospital waste into energy and how to deal with
9 hazardous waste materials
- 10 • Deploying digital strategies
- 11 • Securing healthcare infrastructure- protection from digital attacks and
12 ransomware
- 13 • Update to the 2022 Electrical Code for power over ethernet wiring
- 14 • Committee goals for 2022

15
16 **Discussion and Input**

- 17 • None

18
19 **Informational and Action item**

- 20 • None.

21
22 **MOTION: [Foulkes/Malley]**

23 The board unanimously voted to accept November 10, 2021 Technology and Research
24 Committee meeting report/minutes.

25
26 **7. Structural and Non-structural Regulation Committee**

27 **Presenter:** Jim Malley, Committee Chair

28 Mr. Malley gave an overview of the January 13, 2022 draft meeting report. He gave a
29 highlight of the topics discussed:

- 30 • Implementation of SB 395 and defining the potential program
- 31 • Updates on HCAI Special Seismic Certification approval

- 1 • Updates to HCAI preapproved agency for structural tests and special inspection
- 2 PIN 58
- 3 • Proposed amendments to the 2022 California Administrative Code, Title 24, Part
- 4 1
- 5 • Proposed amendments to the California existing Building Code, Title 24, Part 10
- 6

6

7 **Discussion and Input**

- 8 • None

9

10 **Informational and Action item**

- 11 • None.

12

13 **MOTION: [Malley/Mackey]**

14 The board unanimously voted to accept January 13, 2021 Structural and non-structural
15 Regulation committee meeting report/minutes.

16

17 **8. Ad Hoc Board Procedures Committee**

18 **Presenter:** Michael Foulkes, Committee Chair

19 Mr. Foulkes gave an overview of the January 26, 2022 draft meeting report.

- 20 • Board Chair nominations process and committee appointments
- 21 • Review of board policies and procedures
- 22 • Amendment of paragraph IV, Section A, 1b, 6

23

24 **Discussion and Input**

- 25 • None

26

27 **Informational and Action item**

- 28 • None.

29

30 **MOTION: [Foulkes/Hooper]**

1 The board unanimously voted to accept January 26, 2021 Ad Hoc Board Procedures
2 committee meeting report/minutes.

3

4 **9. Instrumentation Committee**

5 **Presenter:** Marshal Lew, Committee Chair

6 Mr. Lew highlighted an overview of the January 27, 2022 draft meeting report. The
7 committee discussed the White Paper outline, which included:

- 8 • Introduction
- 9 • Current status of HCAI instrumentation
- 10 • Utility of hospital instrumentation
- 11 • Improving the usefulness of current strong motion data and network
- 12 • The role that alternate instrumentation and/or data analytics can play in the future
- 13 • Improving community awareness of the value of strong motion instrumentation.

14

15 **Discussion and Input**

16 Mr. Dandekar commended the agency for initiating this program.

17

18 **Informational and Action item**

- 19 • None.

20

21 **MOTION: [Lew/Khorram]**

22 The board unanimously voted to accept January 27, 2022 Instrumentation Committee
23 meeting report/minutes.

24

25 **10. Codes and Process Committee**

26 **Presenter:** Michael O'Connor, Committee Chair

27 Mr. O'Connor detailed an overview of the February 10, 2022 draft meeting report. The
28 topics were:

- 29 • California Building and Standards Code revision cycle 2022
- 30 • Emergency design task force
- 31 • HCAI pre-approved details

1 **Discussion and Input**

2 None.

3

4 **Informational and Action item**

- 5 • None.

6

7 **MOTION: [O'Connor/Hurlbut]**

8 The board unanimously voted to accept February 10, 2022 Code and Process
9 Committee meeting report/minutes.

10

11 **11. Education Outreach Committee**

12 **Presenter:** Mike Hooper, Committee Chair

13 Mr. Hooper talked about an overview of the February 23, 2022, draft meeting report.
14 Webinar topics that had been discussed were:

- 15 • Off-site fabrication/ pre-assembled components
16 • California Administrative Code
17 • Policy Intent Notice (PIN) 50
18 • Emergency process design guide
19 • Pre-approvals related to medicine dispensing units and emergency projects

20

21 **Discussion and Input**

- 22 • None.

23

24 **Informational and Action item**

- 25 • None.

26

27 **MOTION: [Hooper/Lew]**

28 The board unanimously voted to accept February 23, 2022 Education Outreach
29 Committee meeting report/minutes.

30

1 **12. Energy Conservation and Management Committee**

2 **Presenter:** Scott Jackson, Committee Vice Chair

3 Mr. Jackson reported an overview of the March 15, 2022 draft meeting report. There
4 were two main topics that were presented:

- 5 • Microgrid taskforce updates
- 6 • Microgrids on the move, virtual tour of Kaiser Permanente, Richmond Medical
7 Center microgrid

8

9 **Discussion and Input**

10 Mr. Malley noted some typos on Page 2 of 8, line 28, and on Page 4 of 8 that needed to
11 be corrected. There was also language correction on Page 5 of 8, line 29.

12

13 **Informational and Action item**

- 14 • None.

15

16 **MOTION: [Jackson/Khorram]**

17 The board unanimously voted to accept March 15, 2022 Energy Conservation and
18 Management Committee meeting report/minutes with corrections noted.

19

20 **13. Appoint a Nomination Committee for Chair and Vice Chair elections at the**
21 **August 2022 Full Board Meeting**

22 **Presenter:** Louise Belair, Board Chair

23 Ms. Belair appointed Michael Foulkes and Michael O'Connor to form the Nomination
24 Committee for the chair and vice-chair elections. They will work on interviewing
25 candidates and make a recommendation for the next board meeting. The board will
26 then vote on who will be elected to the position. Ms. Belair asked candidates interested
27 in the position to inform Mr. Yu or Ms. Torres.

28

29 **Discussion and Input**

- 30 • None.

31 **Informational and Action item**

- 32 • None.

33

1 **14. Inspection Service Unit upgrade**

2 **Presenter:** Joe LaBrie, FDD Inspection Service Unit Supervisor, and Chris Davis, FDD
3 District Structural Engineer

4 Mr. LaBrie detailed the ISU activities:

- 5 • IOR Certification and recertification – Mr. LaBrie reported that the increase over
6 the last year was 18 people who got IOR certification
- 7 • Temporary Support of Field Compliance Units (South, North, Central, Coastal)
- 8 • SNF Site Assignments for ISU COs for Field Compliance Units North
- 9 • IOR Monitoring and Enhanced Training – the objective is to enhance monitoring
10 with training to inspectors who seek to improve their inspection practices
- 11 • Webinars (Suspended)
- 12 • Ten Minute Field Brief Advice (FBA10) (Suspended)
- 13 • ISU Field Tip of the Day – an 8-week program that offers an easy-to-read and
14 frequently delivered reminder to the industry about field practices that are always
15 critical to the success of any project
- 16 • Field Operations Manual Update
- 17 • eTIO – Testing Inspection and Observation program
- 18 • ISU Preconstruction and Construction Advisory Seminars – to offer an ISU
19 development presentation to healthcare facilities to identify quality assurance
20 practices that yield the best chances for a successful project. The presentation is
21 already complete and can be offered to interested facilities.
- 22 • IOR / CHI Academy- to create a year program for focused learning and
23 development of people that aspire to become certified hospital inspectors
- 24 • Field Staff Onboarding Curriculum – create an onboarding curriculum to develop
25 new HCAI field staff personnel with the expressed objective to increase
26 consistency countrywide
- 27 • Monthly Compliance Officer Training – includes a survey, round table
28 conversations, and presentations to improve consistency in code understanding
29 statewide

30

31 Mr. Davis discussed eTIO, stating there was a need for the TIO to go electronic since
32 the manual form was handwritten and hard to edit in case of corrections. He talked
33 about the stages of TIO, saying that the DPOR defines them to identify the specific tests
34 and inspections required for a portion of the project work. Design professionals use the
35 stages to determine how they want to create a workflow for their project. Mr. Davis

1 added that the new TIO has some enhancements like a dynamic search for facilities,
2 where facility information is added automatically, there is an instruction tab with a PDF
3 related to specific sections, and if a stage does not contain any test or inspection, a
4 sheet is still generated to notify the user.

5

6 **Discussion and Input**

7 Mr. Hooper asked for elaboration on what a stage is. Mr. David described that a stage
8 could be an area of work or a certain type of construction depending on the design
9 professional and the project. Mr. LaBrie added that stages account for the chronology of
10 a project. Ms. Belair asked about the rationale for adding stages and if HCAI allows any
11 modification once it's been approved. Mr. Davis commented that once there is a change
12 to the TIO format, a new sheet is slipped in, not affecting any other document that has
13 already been signed off. Ms. Belair asked if TIO modifications need to be reviewed and
14 approved by HCAI. Mr. Davis answered that, yes, it has to be reviewed.

15

16 Mr. Malley asked how contractors and engineering teams communicate about the TIO.
17 Mr. LaBrie explained that TIO enables contractors, inspectors, and engineers to
18 communicate so that they can create a stage and work on that part and continue until
19 the project is completed.

20

21 **Informational and Action item**

- 22 • None.

23

24 **15. Building Standard Unit update**

25 **Presenter:** Richard Tannahill, FDD Acting Deputy Division Chief

26 Mr. Tannahill gave an update on the Emergency Design guide, stating that the guide is
27 almost complete. Mr. Tannahill also announced that all the approvals are complete for
28 the 2022 California Building code.

29

30 Mr. Tannahill detailed that HCAI is coordinating with CDPH and gave an update on the
31 following projects:

- 32 • Title 22 rewrite – ongoing
- 33 • Methods of procedure guidance – currently in review
- 34 • Processes of survey discovery of unauthorized projects to ensure every project is
35 code compliant

- 1 • Functional programs – rewrite is ongoing
- 2 • Dietary functions programs guide – ongoing.
- 3 • Covid reset coordination and other emergencies/disaster operations – pushed to
- 4 June 30

5

6 Mr. Tannahill communicated that the upcoming webinars are:

- 7 • Fire Resistive Assemblies – May 5, 2022
- 8 • 2022 Building Code Revisions – June 2022
- 9 • Working with OSHPD
- 10 • Integrated review
- 11 • Emergency design guide
- 12 • Construction project responsibilities

13

14 The 2022 goals for this year are

- 15 • Complete 2022 code revision
- 16 • Looking toward 2025 code revision
- 17 • Work with HBSB on 2022/2023 webinars
- 18 • Update plan review manual and FREER manual
- 19 • Permanent COVID allowances in code

20

21 **Discussion and Input**

22 Mr. Khorram asked whether the psychological care center is considered acute care. He
23 also asked when the HCAI projects could come to the local government for review. Mr.
24 Tannahill answered that if the State of California licenses the center, it will fall under the
25 OSHPD 3 requirement, and if not, it would fall under the county requirement. Mr.
26 Khorram asked if the facility has to come through HCAI if it is county licensed. Mr.
27 Tannahill replied that HCAI does not review psychological clinics, only acute psych
28 hospitals. Mr. Tokas suggested to Mr. Khorram that if he has specific projects, BSU will
29 assist in clearing the projects in terms of licensing.

30 Mr. O'Connor asked if the foodservice guide functional program applies to SNFs and
31 hospitals. Mr. Tannahill affirmed that, yes, it does apply to both.

32 Ms. Belair asked if there was a time frame for the emergency guide draft. Mr. Tannahill
33 estimated that the draft would be ready by June 2022.

1 **Informational and Action item**

- 2 • None.

3

4 **16. Structural and Service update**

5 **Presenter:** Roy Lobo, FDD Principal Structural Engineer

6 On seismic compliance update, Mr. Sumer briefed that the number of SPC-1 facilities is
7 34 and for SPC-2 facilities are, 251. He added that SPC-1 has an extension program
8 called AB 2190, which focuses on SPC-1 buildings, to get them to replace, retrofit,
9 demo, or rebuild. AB 2190 includes enforcement mechanisms available to HCAI, has
10 fixed date milestones, and has fines in case of failure to meet the deadline.

11 Mr. Sumer confirmed AB 2190 extension category dates:

- 12 • AB 2190 Retrofit – completion by July 1, 2022
13 • AB 2190 Replace – completion by July 1, 2022
14 • AB 2190 Rebuild – completion by January 1, 2025

15

16 Facility-specific extension dates:

- 17 • AB 1527 Seton – completion by July 1, 2023
18 • SB 2190 Santa Clara Valley – completion by July 1, 2023

19

20 Mr. Sumer announced that SB 395 is a grant program for qualified hospitals to apply for
21 and receive funding for seismic safety compliance projects. The funds will come from
22 the California Electronic Cigarette excise fund, and the collection of the funds will begin
23 in July 2022. Mr. Sumer expressed that the aim is to support and enhance the effort of
24 small, rural, and critical access hospitals through funding and technical assistance for
25 building safety resiliency.

26

27 Mr. Sumer disclosed that FDD and Cal-Mortgage are developing a PIN to detail the
28 implementation of SB 395. The draft version of the PIN will be presented to the
29 Structural and Nonstructural Regulations Committee for input at the next meeting.

30

31 On the Structural Support Unit (SSU) update, Mr. Lobo indicated that the SSU is in
32 charge of:

- 33 • HCAI preapproval programs
34 • Geotechnical reviews

- 1 • Structural/nonstructural California amendments
- 2 • Structural support to the regions
- 3 • Alternate methods of compliance
- 4 • Management of contract out plan reviews

5

6 Mr. Lobo said that the preapproval applications are now in the eServices Portal. These
7 are OPAA, OPM, and OSP. For the renewal of these projects, reference documents
8 have to be submitted stating what has changed to expedite reviews. Mr. Lobo
9 mentioned that on OPAA, there is an added quick start guide for updating certification
10 and information for testing inspections. Mr. Lobo explained that the application could
11 come through the eService portal on the Preapproved Prefabricated Components and
12 Systems (PSC), but that there is currently there is no setup to submit documentation via
13 the portal.

14

15 Mr. Lobo gave an update on OSP, OPM, and OPAA status. In total, there are 689
16 approvals and 43 submittals. On OPMs, Mr. Lobo stated that two are in review, 10 are
17 remarked, and 472 are approved. On OPAAs, 48 are approved. Mr. Lobo confirmed that
18 they are assisting the Instrumentation Committee with the White Paper.

19

20 **Discussion and Input**

21 Ms. Belair asked what type of revenue would be generated on the new tax relating to
22 SB 395. Mr. Sumer answered that the projections are \$ 2-3 million per year.

23

24 **Informational and Action item**

- 25 • None.

26

27 **17. Fire Prevention Unit Update**

28 **Presenter:** Nanci Timmins, FDD Chief Fire Life Safety Officer

29 Ms. Timmins revealed that the unit had had 2,645 field visits and 2,164 plan reviews.
30 The unit has been working on the following:

- 31 • Attend the CAFAA (California Fire Alarm Association) annual meeting. The topics
32 discussed were HCAI updates on staff changes, COVID and fire response
33 updates, 2022 code changes, microgrids, and prefabrication systems.
- 34 • CFPI-California Fire Prevention Institute – a class on OSHPD 3 clinic.

- 1 • CSHE-California Society of Healthcare Engineers – presentation will talk about
2 HVAC systems and smoke containment. The presentation will take place in a
3 month or so.
- 4 • AIA-American Institute of Architects- topics to be discussed are security vs.
5 egress, egress strategy during construction, and HVAC coordination with the fire
6 alarm system.
- 7 • FPO-Fire Prevention Officers – topics were history of OSHPD, history of the
8 academy, essential uses of the Administrative Code.
- 9 • IOR Recert – update preapproved details, which will include stamp and dates.
- 10 • Mid-Cycle 2022 code change proposals – the amendments were approved and
11 presented through the State Fire Marshal and will be submitted within the next
12 month.
- 13 • Engineering Judgements webinar.
- 14 • UC Trainees – this system is responsible for plan review and field mentoring of
15 the staff trained in the academy.
- 16 • CSFM-Multiple Committees, NFPA committee, and ICC-Healthcare Committee
- 17 • EOC response
- 18 • Emergency Design Task Force

19

20 **Discussion and Input**

21 Mr. O'Connor asked what is needed to have the fire and life safety details visually
22 accessible on the website. Ms. Timmins stated that she is unsure how the information
23 can be accessed on the website. Mr. Tokas added that a lot of the work is in drawing
24 form, which cannot be made accessible, but the details can be requested from the
25 Public Records Act.

26

27 **Informational and Action item**

- 28 • None.

29

30

31 **18. Facility Development Division (FDD) update**

32 **Presenter:** Chris Tokas, FDD Deputy Director

33 Mr. Tokas announced that Richard Tannahill has been promoted to Deputy Division
34 Chief for Northern California.

1 Mr. Tokas specified the transformation of OSHPD to HCAI. OSHPD was elevated to a
2 department in 2021. The goals of the department are:

- 3 • Understanding our purpose.
- 4 • Develop a customer-centric attitude officewide.
- 5 • Identify solutions to fulfill our purpose.
- 6 • Revisit, refine, implement solutions, and measure results.
- 7 • Commit and develop an attitude to “providing value” and willfully participate in the
8 process.
- 9 • The strength of our Division is our people, and we are the ones that will make us
10 succeed or fail. The blame will never be on outside forces. It will be based on
11 how we choose to respond to the challenges.

12

13 Mr. Tokas disclosed FDD’s accomplishments.

- 14 • Health and Human Services Agency assigned FDD to provide technical
15 assistance on various programs from ensuring healthcare surge capacity to
16 school reopening, retrofitting hotels for temporary housing, etc.
- 17 • Electronic plan review
- 18 • Matrix management
- 19 • Integrated plan review
- 20 • Templatization for behavioral health
- 21 • Off-site fabrication/modular construction
- 22 • Standardization programs on a project-by-project basis
- 23 • Microgrid initiative and pilot projects and updates to the codes

24

25 FDD’s objectives for 2022

- 26 • A successful transition and implementation of a hybrid workplace
- 27 • Improving the processes and revising the CBC requirements to be more aligned
28 with the needs of Behavioral Health facilities.
- 29 • IT equipment refreshes office/field.

30

31 Mr. Tokas indicated that between 2010 and 2015, statistics show that the largest
32 psychiatric institution were jails and prisons, so there is a need for a physical

1 environment for behavioral health care. For there to be acute-psychiatric hospitals, the
2 Building Standard has to have some changes in the code.

- 3 • 2016 California Building Standards Code, mid-cycle edition- FDD adopted new
4 standards for Acute Psychiatric Hospitals and designated OSHPD 5.
- 5 • New CBC Section 1228 provides standards specifically suited for behavioral
6 health.
- 7 • In 2018 FDD was presented the prestigious Simanek Distinguished Service
8 Award by the California Hospital Association (CHA) for its efforts in bringing forth
9 these much-needed standards.

10

11 Mr. Tokas pointed out the advances that have developed in Behavioral Healthcare:

- 12 • The building standards for Acute Psychiatric Hospitals are now considerably
13 different than they were in the past.
- 14 • The structural requirements are based on model code, with the “Importance
15 Factor” being based on the number of patients served instead of the number of
16 stories in a building.
- 17 • The architectural standards allow for the special needs and risks considered in a
18 behavioral health setting.
- 19 • The fire and life safety standards for locked units and/or buildings have also
20 changed with the incorporation of the I-2 “with restraint” occupancy such that
21 acute psychiatric hospitals are no longer required to be designed to the jail and
22 prison standards of an I-3.

23

24 FDD is in the process of developing an advisory guide for Behavioral Healthcare
25 facilities which will contain the following:

- 26 • Applicable Codes
- 27 • Checklist and examples
- 28 • Anti-ligature products
- 29 • Patient Risk Assessment Plan, Check List, and Examples
- 30 • Sample AMCs

31

32 Mr. Tokas highlighted offsite Manufacturing/Prefabrication and Modular Construction for
33 Behavioral Healthcare facilities. Prefabrications have been reinvented with the growth of
34 BIM (Building Information Module). BIM makes fabrication more feasible to implement

1 on construction projects. He disclosed that there are preapproved programs as far as
2 prefabrication is concerned. These are HCAI Preapproved Prefabrication Components
3 and systems and modular bathroom units.

4

5 Mr. Tokas brought up the topic of clean energy; HCAI and HBSB has been involved in
6 creating a White Paper on microgrids which has been used in collaboration with
7 National Building Standards on the NFPA 70.

8

9 On change orders, Mr. Tokas clarified that there are Amended Construction Documents
10 and Non-amended Construction Documents. They depend on the design professional
11 response to the approved documents. So, if it is a material change, it is a change order.

12

13 Mr. Tokas gave an update on FDD staffing.

- 14 • Two FDD staff are continuing to work as contact tracers to support California's
15 contact tracing program and will be returned to the Division on 7/1/22.
- 16 • As of April 11, 2022, FDD implemented its hybrid workplace plan. Most of FDD's
17 office staff will be in the office three days per week (Tuesday-Thursday) and
18 telework up to 2 days per week.
- 19 • As of March 31, 2022, FDD has a vacancy rate of 14.7%, or 32 vacant positions.

20

21 **Discussion and Input**

22 Mr. Dandekar asked what the driving force behind the prefabrication templates was.

23 Mr. Tokas answered that, in this particular situation, the owner wanted to build in
24 different parts of the state, and since the owner wanted to build using the same floor
25 plan, there was a need to template.

26

27 A public member asked when is the anticipated time for the Behavioral Guide to come
28 out. Mr. Tokas said it will probably be out by mid-summer.

29

30 **Informational and Action item**

- 31 • None.

32

33 **19. Comments from the public/board members on issues not on this agenda**

34 **Presenter:** Louise Belair, Board Chair

1 **Discussion and Input**

2 Mr. Yu announced that the annual filing of Form 700, the Statement of Economic
3 Interest, was due on April 1, 2022, so members who have not submitted it should do so
4 as soon as possible.

5

6 The second announcement was Pete Kreuser's retirement and resignation effective on
7 April 29, 2022. He thanked Mr. Kreuser for his service to the board. Mr. Yu asked board
8 members who would like to reach out to Mr. Kreuser to wish him best wishes to do so
9 as an individual to avoid Bagley-Keene issues.

10

11 Ms. Belair thanked Mr. Kreuser for his contribution to the board.

12

13 **Informational and Action item**

- 14 • None.

15


16 **20. Adornment**

17 Ms. Belair adjourned the meeting on April 28, 2022, at approximately 4:12 p.m.

Instrumentation Committee

Draft Meeting Report/Minutes

April 15, 2022



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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Instrumentation Committee**

Friday, April 15, 2022
10:00 a.m. – 4:00 p.m.

Teleconference Meeting Access:
[HBSB GoToMeeting Instrumentation Committee](#)
Access Code: 483-058-017

Committee Members Present

Marshall Lew, Chair
Jim Malley

Consulting Members Present

Moh Huang
Hamid Haddadi
Tony Shakal

HCAI Staff Present

Arash Altoontash
Erol Kalkan
Roy Lobo
James Yi

HBSB Staff Present

Ken Yu, Executive Director
Evelt Torres

1 **1. Call to Order and Welcome**

2 Marshall Lew, Committee Chair, called the meeting to order on April 15, 2022, at 10:00
3 a.m., and HBSB Executive Director, Ken Yu called roll.

4

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

6 Five members of the Committee present constitute a quorum. There being five present
7 at the time of roll, a quorum was established.

1 Mr. Yu read the meeting rules and procedures.

2

3 **3. Review and approve the draft Jan 27, 2022 meeting report/minutes**

4 **Presenter:** Marshall Lew, Committee Chair

5 **Discussion and Input**

6 Mr. Huang pointed out an error in the assignments on page five of the January 27, 2022
7 meeting report/minutes: Section 4 should be Marshall Lew and Tony Shakal; Section 5
8 should be Jim Malley and Hamid Haddadi; and Section 6 should be Bruce Clark and
9 Tim McCrink.

10

11 **MOTION: [Malley/Shakal]**

12 The committee voted unanimously to approve the January 27, 2022 meeting
13 report/minutes with corrections.

14

15 **Informational and Action item**

- 16 • None

17

18 **4. Draft section of the white paper, “The Benefits of Strong-Motion**
19 **Instrumentation in Hospital Facilities,” and integration into a single document**

20 **Presenter:** Marshall Lew, Committee Chair

21 **Discussion and Input**

22 Mr. Malley stated that there is a need to introduce the white paper report with
23 summaries and recommendations. Mr. Naeim suggested that the white paper be a
24 technical document that engineers can easily use. Mr. Lew asked if the white paper
25 should be a short document with a separate technical companion. Mr. Naeim answered
26 yes, that people interested in more details could use the technical sources of the white
27 paper.

28

29 Mr. Clark disclosed that some information was missing from the white paper. These are
30 records of the experience with existing earthquakes. Mr. Clark suggested that Chapter 2
31 or Chapter 3 talk about the results and effects of earthquakes in hospitals and how
32 HCAI incorporates the information for evaluating hospitals after an earthquake. Mr.
33 Kalkan stated that the information about earthquakes and their aftermath on hospitals

1 does exist in the instrumentation system but that recent earthquakes have not caused
2 very much damage to the hospitals. Mr. Kalkan added that apart from instrumentation,
3 information can also be found in the USGS ShakeMap, which helps decide which
4 hospital needs to be inspected first. Mr. Lew indicated the importance of including how
5 this information has been used.

6

7 Mr. Clark asked if HCAI feels that the local data source at an individual hospital is
8 helpful. Mr. Lobo answered that the information is helpful and can be used by engineers
9 to evaluate the building. Mr. Lew asked how this information can be immediately
10 accessed from a hospital. Mr. Haddadi indicated that accessing engineering information
11 is doable but done on a case-by-case basis. He recommended that the white paper
12 have a systematic way of providing such data and information for rapid response to an
13 earthquake.

14

15 Mr. Lew asked how the information was being supplied since it is not raw data. Mr.
16 Haddadi explained that information is received on different levels of data. The first level
17 is a pure observation notification without getting into details. That happens a few
18 minutes after an earthquake. After that, there is a strong motion record that goes
19 through processing at Pacific Earthquake Engineering Research Center. Mr. Haddadi
20 said that all this information is sent as raw data and processed.

21

22 Mr. Lew asked, in case of a large earthquake, if there is a need for different servers to
23 process all the data. Mr. Haddadi replied that there are different centers according to
24 the magnitude of the data, and this way, information is prioritized by which records need
25 to be processed first. Mr. Haddadi added that there is a live, real-time data processing
26 system that will be in use soon.

27

28 Mr. Haddadi explained that there is a process of migrating the strong-motion automated
29 recovery and analysis to the cloud system to help prioritize the process in case many
30 facilities want to use the system. The system is capable of parallel processing of
31 records, so the system does not need one process to end to start another. Mr. Clark
32 suggested that the information on HCAI upgrading to a cloud system be included in the
33 white paper.

34

35 An interested party asked about the realistic rollout of an operational system that can be
36 used and deployed in hospitals. He also asked about some of the competitive issues
37 and allowed roles of state-funded agencies concerning private companies. Mr. Haddadi
38 answered that the state-funded agency does not go into detailed structural health

1 studies but rather focuses on observation. The role of the agency is to work on selected
2 types of structures. Mr. Malley added that the white paper should focus on the existing
3 system and how to integrate new approaches with the new technology. Mr. Clark
4 responded that there are guidelines that define what the state agency does. Mr.
5 Haddadi stated that there is no competition between private agencies and government-
6 funded agencies, in that the state-funded agencies only instrument selected structures.

7

8 Mr. Malley asked if HCAI has a formal position in case a hospital wants to put in their
9 system data sharing and inspection coordination in the event of an earthquake. Mr.
10 Lobo responded that there is currently no such agreement; HCAI only does the rapid
11 evaluation.

12

13 Mr. Clark suggested that the list of instrumented hospital buildings, Table 1, be added to
14 the white paper.

15

16 Mr. Naeim opined that Section 2 of the white paper be separated into two: one intended
17 for the general public and the other for the technical document. In Section 3, Mr. Lobo
18 suggested adding information on how instrumentation was used in the past. Mr. Lobo
19 asked about the meaning of the second paragraph in Section 5. Mr. Lew stated that the
20 idea is to have other types of instruments in buildings and make sure the number of
21 sensors is appropriate for that building.

22

23 In Section 5, Mr. Haddadi suggested changing the wording on the topic. Mr. Lew
24 indicated that all names be generalized because the white paper is not about specific
25 facilities, but rather, facilities in general.

26

27 In Section 6, Mr. Naiem expressed that some of the information be used in the
28 introductory part of the white paper. Mr. Clark agreed and added that it should focus
29 more on the decision-makers than the scientific community.

30

31 Mr. Lew suggested that he and Mr. Naeim take different sections and work on the first
32 cut that will be the targeted white paper, then work on the contents that will go in the
33 technical part of the document. Mr. Naeim agreed and added that Section 5 needs
34 changes to the language; it should be revised and sent back before putting the white
35 paper together.

36

37 **Informational and Action item**

1 • None.

2

3 **5. Comments from the public/committee members on issues not on this agenda**

4 **Presenter:** Marshall Lew, Committee Chair

5 Having concluded the meeting, Mr. Lew expressed that it was productive and thanked
6 everyone for their participation.

7

8 **Discussion and Input**

9 • None.

10

11 **6. Adjournment**

12

13 Mr. Lew adjourned the meeting on April 15, 2022, at approximately 12:24 p.m.

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Draft White Paper:
**Seismic Instrumentation
of Healthcare Facilities**



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Seismic Instrumentation of Healthcare Facilities

A White Paper on the Usefulness and
Benefits of Seismic Instrumentation of
Healthcare Facilities

By the
Hospital Building Safety Board
Instrumentation Committee

Presented to HCAI

July 2022

Contents

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2 – Current Status of HCAI Instrumentation 8

3 – Utility of Hospital Instrumentation..... 10

4 – Improving the usefulness of our current Strong Motion data and network 15

5 – The role that alternative instrumentation and/or data analytics can play in the future 17

6 – Improving community awareness of the value of strong-motion instrumentation 20

7 – Conclusion 23

Appendix A 25

DRAFT

1 - Introduction

California is a high seismic region and over the years California hospitals have suffered various degrees of damage and destruction because of earthquakes. Assessing the safety and functionality status of a healthcare facility by the current means of dispatching inspectors and engineers to perform visual inspections is a time-consuming process when time is of critical importance and the status of different facilities must be ascertained with sufficient accuracy as soon as possible so that the health needs of the population can be addressed, and plans be made for sending those in need of healthcare to places that such critical care can be provided at the time it is most needed.

There is no shortage of examples of California healthcare facilities suffering damage during earthquakes. A few examples of such damage and destruction are presented in Figures 1 to 5.



Figure 1. Damage to the San Jose Agnew Mental institution during the 1906 San Francisco earthquake¹

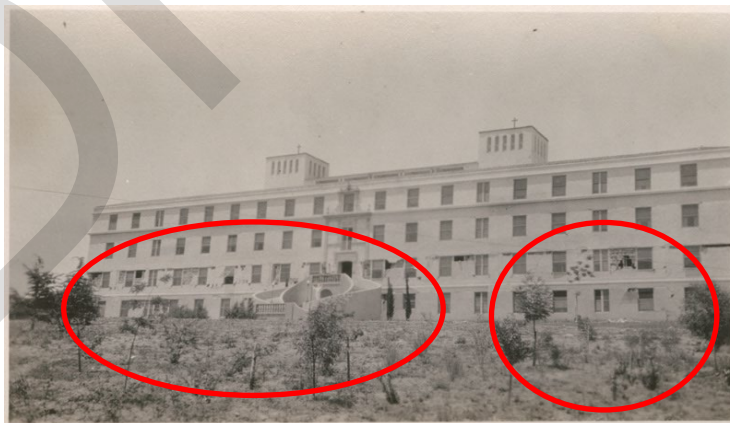


Figure 2. Damage to the Santa Barbara St. Francis hospital during the 1925 Santa Barbara earthquake²

¹ <https://digitalcollections.detroitpubliclibrary.org/islandora/object/islandora%3A173675>

² <https://calisphere.org/item/57af5e1a488743b85ca15f26c005d972/>



Figure 3. Damage to the Seaside Hospital during the 1933 Long Beach earthquake³



Figure 4. Damage to the Olive View Hospital during the 1971 San Fernando earthquake⁴

³ <https://calisphere.org/item/16513a666bc7b5e32c461d7f3581a330/>

⁴ <https://library.usgs.gov/photo/#/?category1=earthquakes&collection2=san%20fernando%20earthquake,%20february%201971>



Figure 5. Damage to the Kaiser Permanente clinic building in Granada Hills during the 1994 Northridge earthquake⁵

After the 1971 San Fernando earthquake, the California legislature passed the 1972 Hospital Seismic Safety Act (HSSA). This Act called for the immediate strengthening or replacement of all hospital buildings that did not meet the modern standards. However, it was quickly realized that this was an economic impossibility. The proposed law was changed to apply only to new hospital buildings and existing hospital buildings undergoing substantial structural remodel or expansion and, therefore, all hospitals licensed at the time were “grandfathered” in – that is, they were not required to meet the new statewide standards. The intent was to bring any building whose useful life was being extended by a modernization program up to the modern seismic standards.

In Northridge Earthquake of January 1994, several of these older hospitals sustained significant damage. Hospitals built in accordance with the standards of the HSSA Act resisted the Northridge earthquake with minimal structural damage, while several facilities built prior to the act experienced major structural damage and had to be evacuated. It must be noted that certain nonstructural components of the hospitals did incur significant damage, even in facilities built in accordance with the structural provisions of the HSSA Act.

An important goal of hospitals is to be able to continue to operate and serve the patient community after a major earthquake. However, the building itself may have been damaged and, consequently, may pose a hazard to patients and staff. It is critical that hospital management have the tools and information necessary to make a rapid decision whether to evacuate, reduce services or other operation changes. Early assessment of the integrity of the hospital buildings affected by the earthquake is valuable in this decision-making process. For resilience and sustainability of the

⁵ <https://www.latimes.com/local/lanow/la-me-ln-concrete-list-earthquake-20140121-story.html>

California’s hospitals, it is also necessary to assess their structural condition periodically to facilitate necessary repairs and retrofitting measures.

As it will be explained in this white paper, seismic instrumentation at a relatively modest cost (Figures 6 and 7) has the potential of providing hospital owners, operators, and public officials with timely information regarding the post-earthquake status and vital information for assessing whether the facility is safe or unsafe, operational, or not, or whether it should remain in service or be evacuated until repairs are made.

The target audience for this white paper are hospital owners, managers, and operators as well as public officials and the general public. More detailed technical information and references intended for design professionals are contained in a separate document available from HCAI (provide reference/hyperlink).



(a) examples of sensors to measure accelerations



(b) examples of sensors which can be used to directly measure displacements

Figure 6. Sensors that have been and can be installed at hospitals for seismic instrumentation and health monitoring.

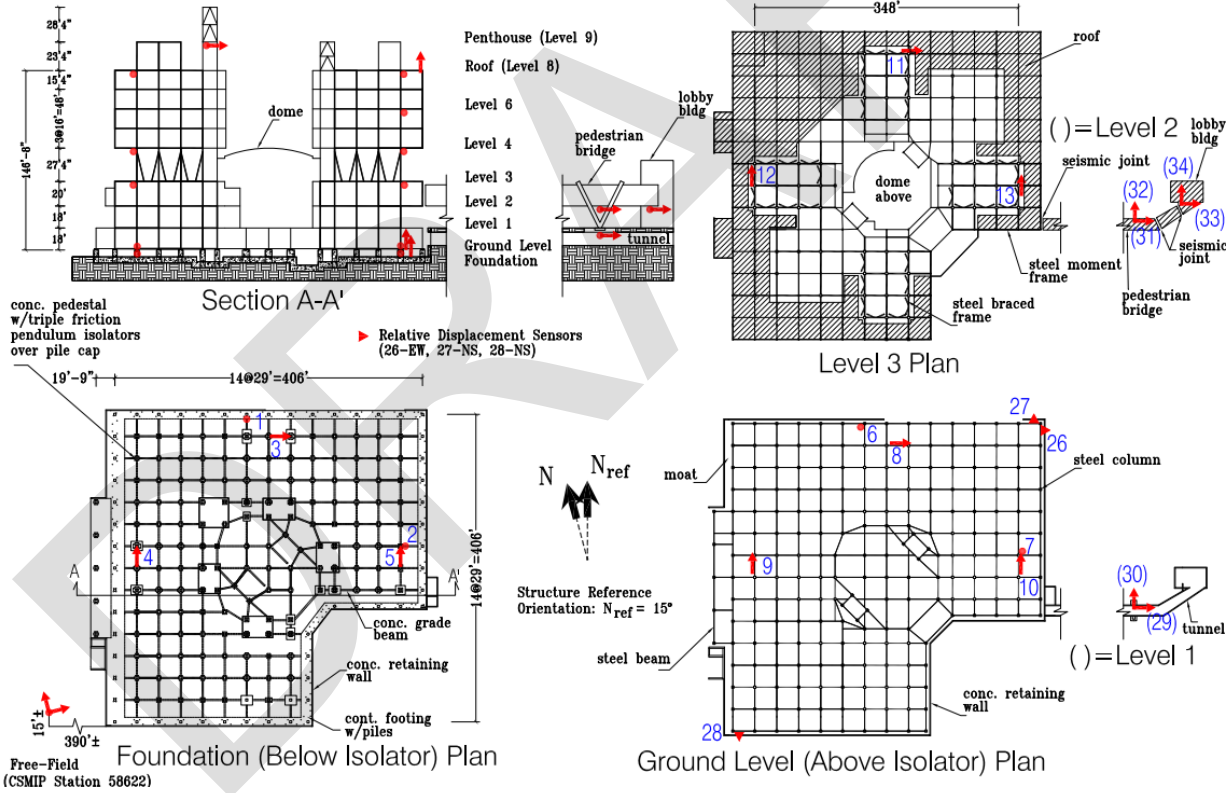


Figure 7^{6, 7}. Photo (top) and sensor lay out diagram (bottom) of the seven-story hospital building at the Stanford Medical Campus. Red arrows in the schematic diagram show the locations and indicate the directional sensitivity of the strong-motion sensors (accelerometers). The sensors are connected to a central data acquisition system in the building.

⁶ <https://med.stanford.edu/news/all-news/2019/05/new-stanford-hospital-nearing-completion.html>

⁷ <https://www.strongmotioncenter.org/NCESMD/photos/CGS/bldlayouts/bld58623.pdf>

2 – Current Status of HCAI Instrumentation

In response to these needs explained in the previous section, for a long time now, the Department of Health Care Access and Information (HCAI – formerly the Office of Statewide Health Planning and Development or OSHPD) has supported and continues to support hospital instrumentation in collaboration with the California Strong Motion Instrumentation Program (CSMIP) of the California Geological Survey (CGS - <https://www.conservation.ca.gov/cgs/smip>). These instruments record motions in the hospital buildings when earthquakes occur and are useful and essential in understanding the behavior of these hospital buildings due to and during the earthquakes.

The records obtained from the sensors in instrumented buildings can also provide the basic source data to improve understanding of the behavior and potential for damage of such structures under the forces generated and imposed by strong earthquakes. As a result of this understanding, design and construction practices can be and have been modified so that future earthquake damage is minimized and the objective of maintaining continuous operation may be met as explained in the next section of this white paper.

CSMIP has been instrumental in performing installation, maintenance, and data recovery from seismic instrumentation in hospitals through an interagency agreement (IAA) with HCAI since 1984. Currently, close to 90 hospital buildings across the state have been instrumented under this IAA (see Figure 8 and Appendix A Table). It should be noted that 90 instrumented hospital buildings represent a very small percentage of total hospital buildings in California and therefore more widespread instrumentation of hospitals is needed in order to immediately assess the status of most, if not all, hospital buildings in California following a major earthquake.

Hospital Buildings with seismic isolation and or passive energy dissipation are required by the California Building Code (CBC) to be instrumented. Different types of applications of such systems will perform differently. Instrumentation provides the opportunity to reveal which type of such systems is more effective than others. HCAI promotes construction of buildings with new and innovative seismic resistant systems with predictable and improved seismic response and behaviour. However, designs of hospitals buildings submitted for review that use such seismic resistance systems (deemed as experimental) may not yet be permitted by the CBC because the building code has not caught up with the latest technology. In those cases, HCAI under the provisions of “alternate means of compliance” permits such systems for hospital construction provided that such buildings are instrumented prior to the issuance of the certificate of occupancy. Examples include structures with Buckling Restrained Braced Frames, Steel Plate Shear Walls, Special Steel Moment Frames with SidePlate connections, new soil stabilization systems that become part of the building foundation, etc. In such cases, the owner is responsible for the cost of the instrumentation and installation with HCAI being responsible for the maintenance of the instrumentation and data retrieval through CSMIP.

Each year, HCAI provides funding for instrumentation of selected existing hospital buildings. Most hospital buildings are instrumented with accelerometers. Most of the instrumented hospital buildings are in regions of high or very high seismic hazard. With the assistance of the Hospital Building Safety Board (HBSB) Instrumentation Committee, HCAI selects at least two existing

hospital buildings per year to be instrumented with a sufficient array of sensors in addition to any buildings required to be instrumented as required by the CBC. The cost of instrumentation of these buildings selected for instrumentation by the HBSB Instrumentation Committee is paid for by HCAI. Each such instrumented building has a well optimized number of sensors placed at critical locations to generate meaningful data that characterizes the response of the subject buildings.

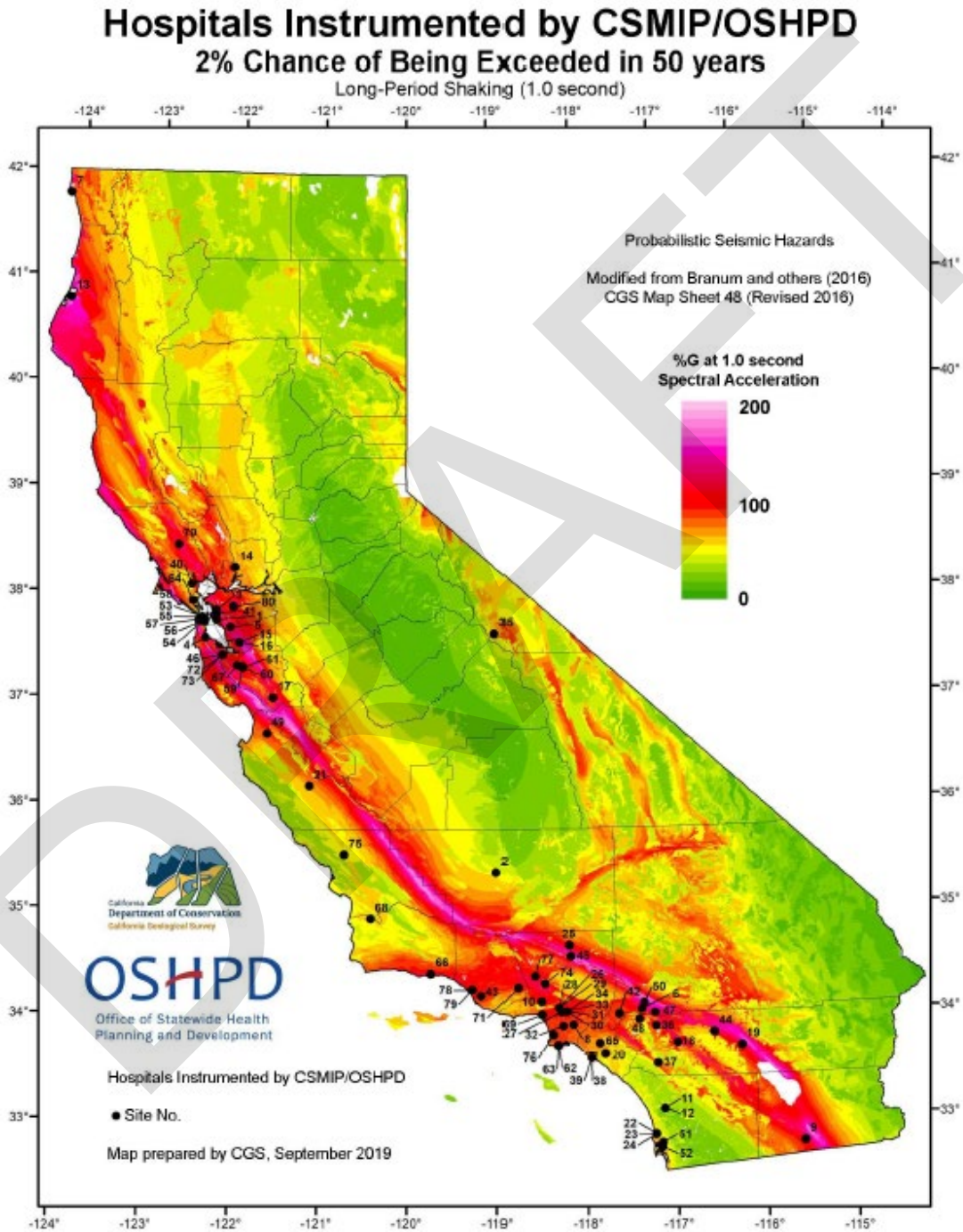


Figure 8. Locations of the instrumented hospital buildings (black dots). The base map is the seismic hazard map of the California. Colors on this map display the levels of horizontal shaking that have a 2 percent probability of exceedance in a 50-year period.

3 – The Utility of Hospital Instrumentation

Seismic instrumentation is a vital tool that can provide for timely safety evaluation of hospitals and their contents following earthquakes. Unfortunately, as described in the previous section, there are only about 90 hospital buildings which are currently instrumented in California. Adaptation of some rather simple hardware/software/Internet technologies can make the instrument data recorded during earthquakes almost immediately available for safety assessment of hospital buildings and their contents. In addition, over the period of the past three decades, seismic instrumentation and evaluation of the response of instrumented buildings has resulted in significant changes and updates in seismic building design codes and practice. These include, but are not limited to, the following building code changes and improvements:

- Updating design ground motions and lateral force procedures
- Improvements of site response provisions in building codes
- Updating seismic design requirements for various building types and their structural and nonstructural components.
- Better understanding of soil-foundation-structure effects, and
- Improvements in building code formulas for estimating torsional effects and natural periods of buildings.

The utilization of seismic instrumentation for identifying and understanding structural damage to hospital buildings from an earthquake or its aftershocks have been demonstrated for a period of more than 20 years by various researchers. Furthermore, the importance and value of instrumentation for identifying the hazards from nonstructural building elements (such as partitions, hung ceilings, and piping), as well as stationary and movable equipment inside and outside of the hospital buildings have been demonstrated by a number of investigators.

The following simple example of such utility illustrates the need for wide distribution and enhancement of seismic instrumentation of hospital buildings and integrating instrumentation into seismic health monitoring systems for California hospitals. At the time of the 1994 Northridge earthquake, the Olive View Medical Center hospital located in Sylmar (Figure 9) was one of the hospitals instrumented by CSMIP for HCAI. This building was specifically designed using a new structural system to resist major earthquakes without significant structural damage which was the objective of building codes enacted after the 1971 San Fernando earthquake and this objective was achieved during the Northridge earthquake. However, the performance of nonstructural components and contents was quite extensive during the Northridge earthquake and resulted in closure of this hospital for an extended period of time (Figure 10). The major lesson learned from the performance of the Olive View Medical Center was that design for structural integrity by itself does not necessarily provide for continued operation of a hospital because nonstructural elements of a hospital facility also must be designed and installed to resist earthquake forces. This lesson led to new building code regulations regarding design and installation of nonstructural elements. The records obtained from the hospital instrumentation provided valuable insight to draft these provisions.



Figure 9. An outside view of Olive View Hospital Building the day after the 1994 Northridge earthquake.⁸



Figure 10. Examples of nonstructural damage at Olive View Hospital in the 1994 Northridge earthquake.⁸

⁸ Naeim, F. Hagie, S. Alimoradi, A. and Miranda, E. 2005, *Automated Post-Earthquake Damage Assessment and Safety Evaluation of Instrumented Buildings*, Proceedings of SMIP05 Seminar, Strong Motion Instrumentation Program, California Geological Survey, Sacramento, CA.

With the technology available in 1994, the recordings from the seismic instrumentation required collection and processing which was some time after the earthquake. The analysis of the data would take more time also. Today, if the instrumentation of the building was connected to simple application on a computer or to a cell phone or tablet application that could process the sensor data and pass them through some very basic fragility functions (that predict damage), such as those embedded in HAZUS-MH (FEMA 2020) or FEMA P-58 documents (FEMA 2018), then a fairly accurate estimate the probability of the status of the building’s structural and nonstructural performance would have been almost immediately available as shown in Figures 11 to 14.

Applications of newer approaches and technologies have the potential of providing even more accurate, timely and useful information regarding the status of the hospital buildings and their contents. This timely and almost immediate estimation of the structural and nonstructural performance from the instrumentation data would immensely facilitate more timely and more informed post-earthquake response in a hospital building.

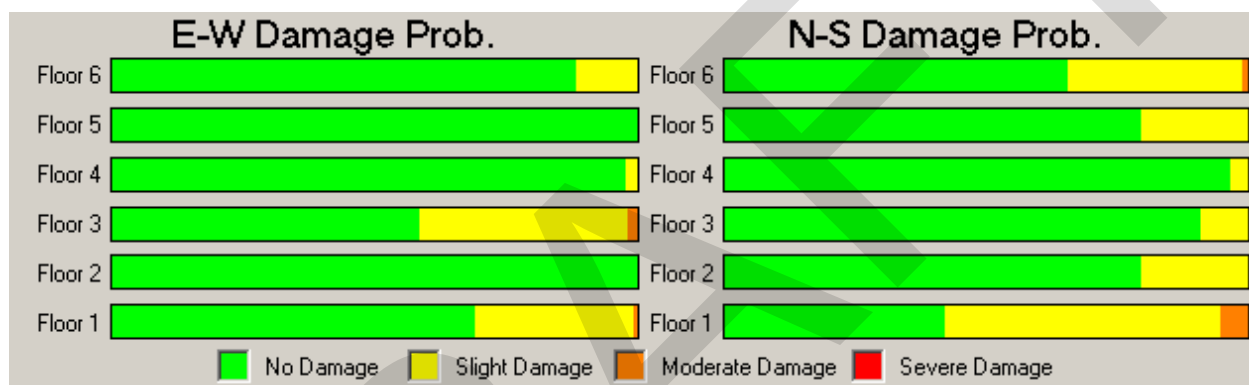


Figure 11. Instrumentation indicates no damage to slight damage status of the Olive View Hospital structural system following the 1994 Northridge earthquake using a relevant and readily available HAZUS-MH fragility function⁹.

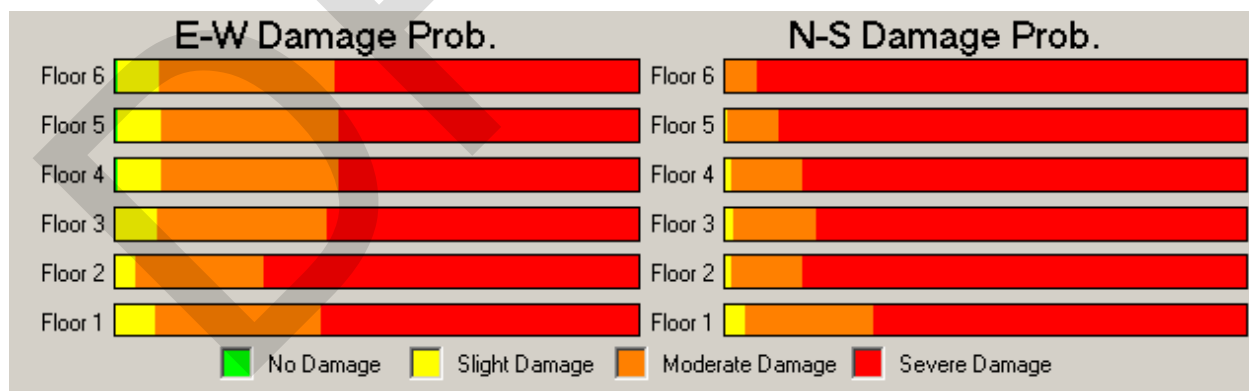


Figure 12. Instrumentation indicates moderate to severe damage status for the nonstructural systems of the Olive View Hospital following the 1994 Northridge earthquake using a relevant and readily available HAZUS-MH fragility function⁹.

⁹ Naeim, F., Kanda, K., Ventura, C. and Biro, T. 2021, *Roadblocks and Incentives for Worldwide Adaptation and Implementation of Seismic Structural Health Monitoring (S2HM)*, Special Session at 17th World Conference on Earthquake Engineering, Sendai, Japan

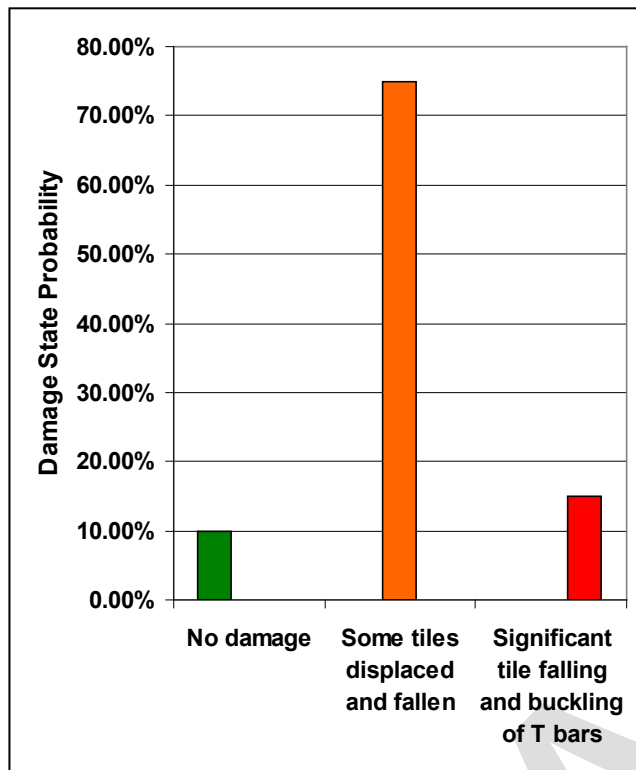


Figure 13. Instrumentation indicates displaced suspended ceiling tiles on the first floor of the Olive View Hospital following the 1994 Northridge earthquake using a relevant and readily available FEMA-P58 fragility function⁹.

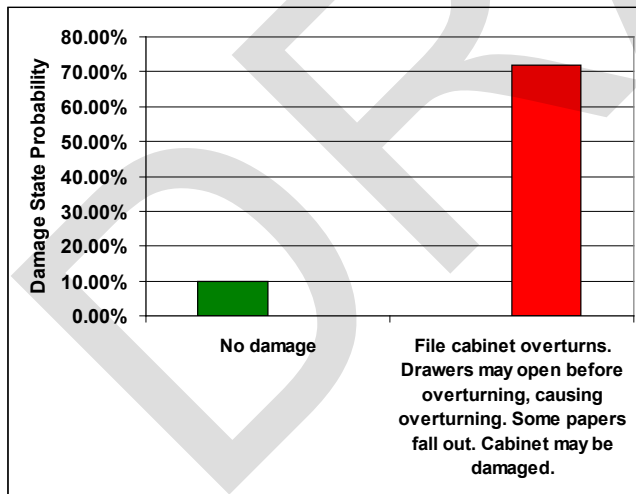


Figure 14. Instrumentation indicates overturning of file cabinets on the 6th floor of the Olive View Hospital following the 1994 Northridge earthquake using a relevant and readily available FEMA-P58 fragility function⁹.

As illustrated in Figures 11 to 14, the fragility functions available in FEMA-P58 were able to confirm the observations of both structural and nonstructural performance of the Olive View Hospital in the 1994 Northridge earthquake. This same technology can be used today to have

almost real-time evaluation of the structural and nonstructural conditions just after the earthquake event if the building has the appropriate seismic instrumentation.

DRAFT

4 – Improving the usefulness of our current Strong Motion data and network

As it was mentioned in Section 2, strong motion instrumentation has been installed in about 90 hospital buildings in California. There are about 415 hospital campuses with over 3,000 hospital buildings throughout the state. The actual percentage of hospital buildings with strong motion instrumentation is likely less than 5 percent because most hospital campuses have multiple buildings.

As described in Section 3, advances in technology and communication now may enable strong motion instrumentation data to be available in real or near-real time which will provide more timely feedback on the structural and nonstructural performance of buildings and systems and potentially identify key indicators of distress or concern regarding the structural and nonstructural integrity of a building or facility.

The speed of transmission of the strong motion data from the various instruments will depend on the availability and capacity of the telecommunication channels which may be affected by earthquake and post-earthquake events.

As mentioned earlier, HCAI required seismic instrumentation data is collected by CSMIP. The data recorded at each hospital building is transmitted to CSMIP as raw data that must be processed to be in a uniform standard format that can be readily used by researchers and other analysis platforms. CSMIP has a network of thousands of strong motion instruments in California that include non-hospital buildings, bridges, lifeline facilities and other types of installations. The availability of the processed data may be delayed because of the sheer amount of data to be processed. Also review of the processed data by CSMIP may be needed for quality control and assurance purposes.

If the processed data can become more readily accessible in real or near-real time, the strong motion data can be used to assess damage and provide a more scientific basis for decision making regarding continuing occupancy and services in buildings more quickly. More rapidly available data can also be used to prioritize resources for recovery and restoration of services.

We need to move from simple instrumentation to a concept similar to the concept of “Black Box” which is implemented in airplanes (Figure 15). If a building “black box” is located and functional in an instrumented building, at the time of an earthquake, the data from sensors are processed by the box and results will be made available almost instantaneously. After the event, the data is transmitted to the data center in Sacramento where it is received and processed and then posted to the data center at www.strongmotioncenter.org, followed by notification of the facility contact for some facilities. All the functions of data retrieval, data processing, and notification could be done on-site, very rapidly, with immediate notification of key people. The box would retain all the data from the sensors and the calculated motions and responses.

This approach would remove the vulnerability to loss or low speed of the communication between the hospital and the data center in Sacramento, since the information would be available onsite in the “black box,” at its URL (web address) on the Internet. It is likely that such a system could also be developed by and purchased from the instrumentation manufacturers. The software loaded in the box could be as specified by CSMIP and HCAI, and the software could also be modified by

CSMIP as needed for specific situations. For example, the data from certain sensors could be defined as key, and the box would process these and report them out immediately.

S2HM = Structural Seismic Health Monitoring

S2HM in a box: blackbox for structures

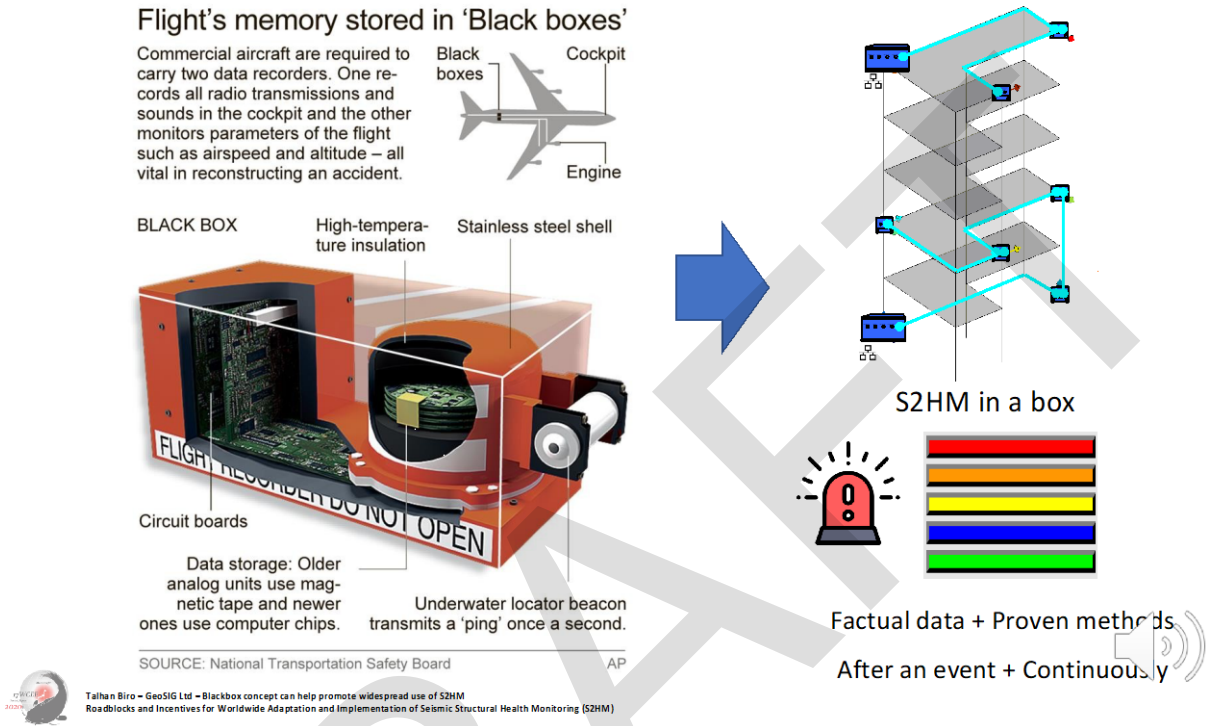


Figure 15. The concept of block boxes for buildings (Courtesy of Talhan Biro, GeoSeis Ltd)⁹

There is no doubt that the existing network will record strong motion data from the inevitable future earthquakes. With advances in technology and communications, this data can be used extensively and effectively to provide very useful information to owners and operators of hospital facilities regarding the structural health of their facilities and help them to make informed decisions regarding operations, occupancy, and allocation of resources after significant earthquake events.

Some facilities may need additional instrumentation to provide the necessary resolution of data to identify some key indicators of damage. However, there may also be more low-cost instrumentation that may be able to provide this data that may be commercially available that may not necessarily be part of HCAI’s instrumentation program. Individual or corporate hospital operators may find that investment in private seismic health monitoring systems may be beneficial and financially sound provided that the recorded data will be available for curation, and for subsequent analysis by HCAI and engineering researchers.

5 – The role that alternative instrumentation and/or data analytics can play in the future

This section provides an introduction on the potential role that alternative instrumentation technology and the application of data analytics can play in augmenting data obtained from the instrumented hospital buildings in the existing HCAI/SMIP instrumentation program or providing data in hospital buildings that are not instrumented. Lower cost MEMS (micro-electromagnetic systems) accelerometer sensors (Figure 16) are becoming widely available and could help provide more widespread site and building specific real time data that would be highly valuable in the post-earthquake response environment. Other technologies such as the USGS ShakeAlert Earthquake Early Warning System, Community Seismic Network (Figure 17), displacement and velocity measurement devices (Figure 6), airborne and spaceborne remote sensing devices, and artificial intelligence based tools for damage assessment (Figure 18) are all potential tools that could be implemented in hospital facilities now or in the future to assist with post-earthquake response and to provide valuable information on building response for use in future studies that could lead to future design improvements. However, the ShakeAlert and the Community Seismic Networks will only provide estimates of the free-field ground motions at any particular site and not be able to provide estimates of the motions within buildings.

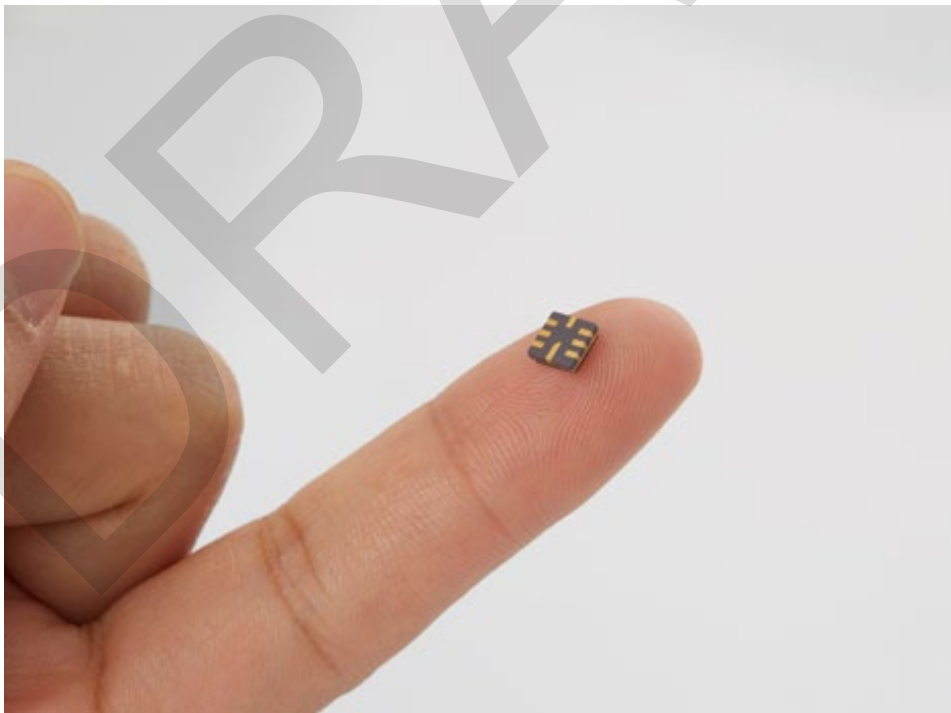


Figure 16. A typical MEMS sensor which can be used to measure accelerations, tilts, pressure, or humidity. Many of these sensors are installed in every modern cell phone in use today¹⁰.

¹⁰ <https://www.winsen-sensor.com/sensors/mems-gas-sensor/>

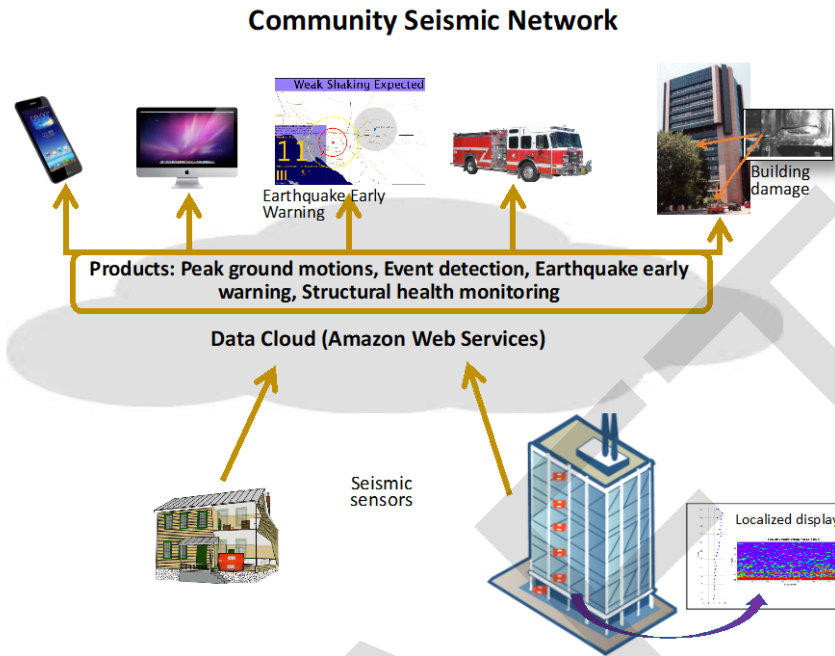


Figure 17. The Community Seismic Network implemented and managed by California Institute of Technology and UCLA provides a low-cost alternative for instrumentation of school campuses and other buildings with limited budget for instrumentation.¹¹

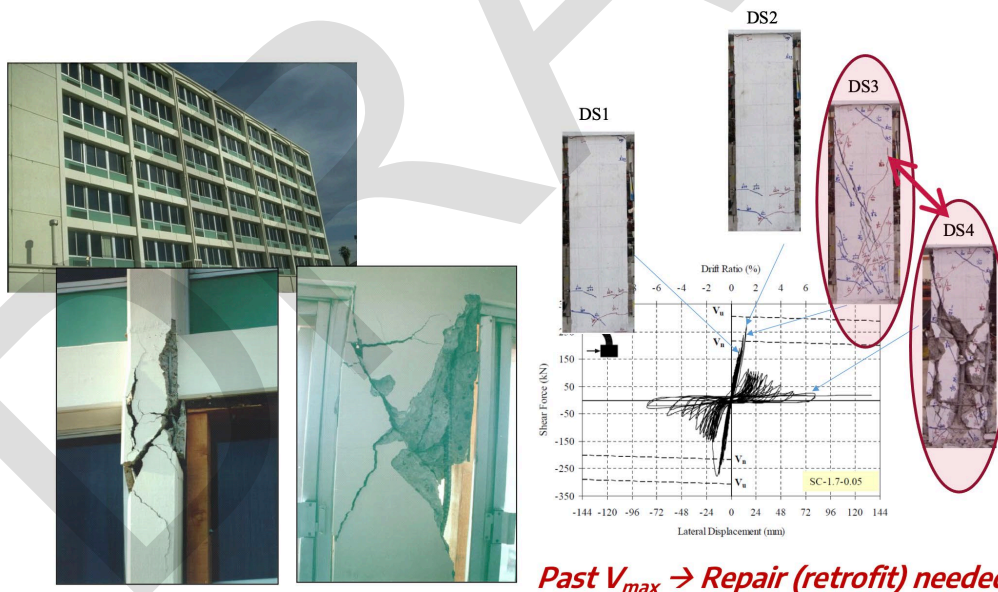


Figure 18. Integrating artificial intelligence, machine learning, and photographic tools creates yet another opportunity for immediate post-earthquake assessment of buildings as demonstrated by the ATC-145 project currently underway and sponsored jointly by FEMA and the New Zealand Earthquake Commission¹².

¹¹ http://csn.caltech.edu/pdf/Function_Schematic.pdf

¹² Elwood, K.J. and Moehle, J.P. (2021), *ATC-145 Update: Draft Guideline for Post-Earthquake Assessment, Repair, and Retrofit of Buildings*, Proceedings of the 2021 Los Angeles Tall Buildings Structural Design Council Conference, Pages 86-94.

Adding MEMS to existing instrumentation of instrumented hospital buildings or installing them in the vast number of hospital buildings that are not instrumented can provide situational awareness of an earthquake within the hospital environment to surgeons, operators of sensitive imaging equipment, etc. Sensors placed in operating and imaging rooms could audibly alert doctors to stop what they are doing when shaking exceeds a threshold that is likely to indicate a high intensity event is occurring. Similar objectives could be achieved by implementation of low-cost Community Seismic Network-type sensors (consisting of MEMS).

The efficient post-earthquake operation of a hospital facility will also be dependent on the performance of the many support buildings surrounding the acute care hospital. These include central utility plants, medical office buildings, parking structures, records storage, imaging centers, etc. Use of lower cost sensors will make it more affordable for hospitals to install sensors in all important buildings on a campus.

The current ShakeMap and CSMIP networks do not provide information that is readily accessible and meaningful to hospital staff in the seconds and minutes after an earthquake. ShakeMaps provide shaking intensity information, which is not specific to the vulnerability of an individual structure, nor always timely; in addition, CSMIP waveform data may be difficult to interpret by non-technical users. A web-based platform that gathers sensor data and puts it into context would greatly aid emergency response. The platform would:

- a. be accessible to each hospital,
- b. gather data from multiple building sensors (high fidelity or MEMS based) and compare it to building specific vulnerability functions,
- c. display easy to understand damage estimates; and
- d. be available to structural engineers inspecting the buildings.

Historically, HCAI/CSMIP hospital instrumentation projects have predominantly used accelerometers, whereas displacement transducers have only been utilized in limited applications.

A new laser-based optical sensor for measuring building displacement is now available (see Figure 6). This technology appears promising for obtaining direct measurements of relative displacements of the floors of buildings (story drifts) which are generally a very good indicator of expected level of damage in various floors of the building. The optical sensors do require a clear line of sight between the laser source and position sensitive detector which could make its application in existing hospital buildings difficult.

6 – Improving community awareness of the value of strong-motion instrumentation

It is a frequent observation that most people in the state of California have little knowledge of strong motion instruments, what they measure, or why they are important to public safety. As a result, public support for this vital element of earthquake safety may inhibit long-term funding for hospital instrumentation and maintenance. The life-safety benefit of robust hospital instrumentation is the ability to quickly identify any hidden structural problems in the affected hospitals that might make them unsafe to occupy. At the current level of hospital instrumentation, the instruments by themselves are not generally adequate to allow HCAI to fully assess damage to hospitals rapidly and accurately after a large urban event or for a large event in rural parts of the state where alternate hospital facilities are limited. HCAI engineers and inspectors need to conduct an in-person assessment and review of damage at a site to evaluate whether a hospital is deemed to be fit for immediate occupancy (Green Tag), restricted occupancy (Yellow Tag), or unsafe (Red Tag). Until such evaluations are completed, the hospital facility is generally self-reliant in the determination of whether to continue or curtail health care services. In-person evaluations may take days to accomplish, during which time large aftershocks are likely to occur that could potentially further damage earthquake-weakened structures.

The purpose of this section is to provide HCAI with advice on how to develop and implement an effective outreach program to educate targeted audiences and promote better instrumentation of acute care and skilled nursing facilities throughout the state.

HCAI might consider three audience groups for outreach and education efforts. These are:

1. Decision-makers, hospital owners, emergency responders
2. Professional engineering and scientific communities
3. Interested members of the general public

Each of these groups should have a tailored informational message distributed within its ranks. The makers and users of this instrumentation should be getting regular messages that explain what is being measured, how it affects their well-being and why it is important, especially after a significant earthquake.

The first group includes elected officials, facility owners/operators, and emergency managers and responders. This group needs to have access to good explanations of the information that they are relying on to make decisions that affect the hospital community. Because of the range of specializations in this group, they may be more difficult to reach as a group and require different outreach approaches for subgroups. For example, elected officials at the state level cannot be contacted directly by unelected civil service employees. Such contacts need to be arranged by legislative liaisons at the state department or agency levels. However, state agencies such as HCAI need to prepare informative presentations and illustrated reports that explain what the instrumentation programs do for hospital buildings. Those reports can also form the basis for HCAI staff and their consultants to interact with city and county officials, first responders, and

emergency planning personnel, as the need for the information arises. For decision-makers, hospital building owners, and emergency responders, the message is that their building is instrumented and the strong-motion records from inside the building can go a long way toward determining whether the building remains safe to occupy after the earthquake.

The second group primarily includes licensed civil/geotechnical/structural engineers, seismologists and other geoscientists who are involved in design and review of hospital and health care delivery development and construction projects. This group also includes university researchers who advance the tools used to produce earthquake-resistant structures. The message to this group should be technical in nature and explain in detail the benefits of seismic instrumentation, and how it can be designed, implemented, and utilized. Examples of the ability to identify potential areas of structural and nonstructural distress from earthquakes, such as those given in Section 3 of this white paper, should be showcased.

For the general public, the message might be that the areas of greatest damage are available to them right after the earthquake so that they can stay away from those areas and identify areas where family and friends might need help. They also should understand that strong motion data are critical to the earthquake early warning system so that it can identify when severe ground shaking might arrive where they are located.

The third group, consisting of the general public, should be made aware that technology exists today that seismic instrumentation when coupled with even relatively simple analysis packages can provide near real time indications of structural and nonstructural distress in the hospitals that they rely upon to be available when “The Big One” hits. The general public can have some confidence that in times of need, the hospitals they go to or are taken to have been evaluated for safety with reliable data and can be a safe harbor during periods of emergency following an earthquake.

Currently there are other state agencies, organizations, and entities that engage in outreach efforts related to seismic safety, such as:

- The California Geological Survey Strong Motion Instrumentation Program (CSMIP)
- The California Governor’s Office of Emergency Services (CalOES)
- The California Integrated Seismic Network (CISN)
- The Alfred E. Alquist Seismic Safety Commission (SSC)

HCAI should set up a partnership with other state agencies including the Department of Conservation (DOC), Alfred E. Alquist Seismic Safety Commission (SSC), and California Office of Emergency Services (CalOES). These agencies should engage their Public Affairs Officers to develop a coordinated outreach effort that prepares materials and strategies to send group-specific messages that remind them of the value of earthquake instrumentation and inform them about new advances in the field. Outreach can use websites, social media platforms, science podcasts, and/or traditional television, radio and print media methods. Technical staff input from HCAI and CGS will be necessary to make sure the messaging is accurate and at the right technical level for the targeted audience.

HCAI should also consider setting up a partnership between the Legislative Liaison Officers from HCAI, DOC, SSC, and CalOES to develop outreach materials and strategies for engaging California legislators and local government elected officials.

Triggers for frequent, simple messaging to these groups should be identified along with prepared language so that messages can be produced and disseminated quickly. Examples of message triggers might include:

- Small but felt earthquakes anywhere in California or in bordering states.
- Damaging earthquakes anywhere in the United States or North America.
- Introduction of new instrument technologies or processing capabilities.
- Significant new instrumentation projects.

Technical staff (engineers, geologists and seismologists) from HCAI, CGS, SSC, and CalOES should identify professional organization publications and meetings and coordinate the preparation of technical papers and presentations that promote instrumentation and new applications.

DRAFT

7 – Summary, Recommendations and Conclusions

Seismic Instrumentation of buildings, and hospitals in particular, have provided important data regarding the response and behavior of structures in earthquakes for the purpose of seismic hazard mitigation. This data has been used by HCAI along with architects, engineers and contractors that design and build hospital facilities to design and construct better and safer hospitals. The data from seismic instrumentation has been used to improve the building codes as more is learned from the performance of hospital facilities and structures in general from every earthquake. The data is also useful in verifying the performance of new innovative technologies and building materials. The data has also been important in identifying potential problems in hospital construction and in the nonstructural components that are important to the continued operation of these critical facilities during and after large earthquake events. However, these benefits from seismic instrumentation are not fully realized until some time after the earthquake occurs

Technological advances in recent years now give us the opportunity to better use the data from seismic instrumentation to potentially provide essentially real-time understanding of the behavior of structural and nonstructural systems if strong earthquake shaking occurs. Through a combination of the seismic instrumentation, fast modern communications, efficient computing equipment, and curated software applications, we now have the ability to identify areas of concerns in the structural and nonstructural systems within a very short time after the earthquake occurs. This can be accomplished with relatively modest cost using economical MEMS technology and WIFI connections, and personal computers.

Why would a hospital facility want to do this? A hospital administrator will need to make many important decisions about the operations of the facility after a strong earthquake occurs. The most important questions may include:

- How safe is the hospital structure?
- How safe are the nonstructural systems, such as mechanical, electrical, and plumbing systems?
- Is it safe to use medical equipment now?
- Can we continue to keep the hospital open?
- Can we keep part of the facility open?
- Do we need to evacuate?
- Do we need to curtail certain services?
- More?

As mentioned earlier, HCAI will send out engineers and inspectors to evaluate hospital facilities after an earthquake, however, if the earthquake affects a large area, these evaluations will take time

to be undertaken. In the meantime, a hospital administrator may be forced to address the critical questions above without being a design, construction or mechanical professional.

If the hospital facility had a seismic instrumentation system, the administrator would be able to make informed decisions and be more confident on these and other critical issues regarding the continued operation of the hospital very shortly after the earthquake occurs. It is advisable for the hospital to retain the services of a qualified engineer that can evaluate the data and output from the seismic instrumentation and provide more expert advice on those issues. There are commercial entities that can provide installation of such systems and technical support to interpret the results after an earthquake occurs. In addition, having such data and professional evaluation available will also aid HCAI in its evaluation of the facility and determination of the hazards and risks of continued, partial, or suspension of occupancy and health care services at that facility or a portion of that facility.

In conclusion, although there are some expenditures needed, a seismic instrumentation system for a hospital in California may be a wise expenditure and provide some key insights into the structural health of the hospital structure and its supporting systems when an earthquake occurs. Hospital administrators, with the assistance of qualified experts, will have a very powerful tool that will aid in making some very important and timely judgments and decisions regarding continuing or discontinuing some or all healthcare functions at the facility. This is important for safety of the physical plant and the patients and staff at these facilities. Having such a system can also reduce the possibility of suspending health care services unnecessarily due to inadequate information and knowledge. The unnecessary loss of health care services after a major earthquake is not desirable.

The Hospital Building Safety Board is encouraged by the advancements in technology and the role that increased use of seismic instrumentation beyond what is required by the Building Code can do to provide health care in times of emergency caused by earthquakes. It is our hope that hospital owners and administrators will consider seismic instrumentation as a wise investment to protect their physical plants and their patients and staff.

Appendix A

Table A1. List of instrumented hospital buildings under the HCAI jurisdiction

No	Facility Name	Building Name	Number of Sensors
1	El Centro Regional Medical Center	North Wing	5
2	El Centro Regional Medical Center	Lab Building	7
3	UC San Diego Health La Jolla - Jacobs Medical Center & Sulpizio Cardiovascular Center	Main Hospital	12
4	Scripps Memorial Hospital - La Jolla	Transition Tower (& 5A)	12
5	Sharp Memorial Hospital	South Tower	15
6	UC San Diego Health La Jolla - Jacobs Medical Center & Sulpizio Cardiovascular Center	Bed Tower	24
7	UC San Diego Health Hillcrest - Hillcrest Medical Center	Main Hospital Building	12
8	Hemet Global Medical Center	Tower I	10
9	Desert Regional Medical Center	East Tower	13
10	John F. Kennedy Memorial Hospital	West/South Wing	8
11	Riverside University Health System - Medical Center	Ancillary Building	15
12	Hoag Memorial Hospital Presbyterian	East Wing	27
13	Kaiser Foundation Hospital - Orange County - Irvine	Main Building	15
14	Palomar Medical Center	Hospital	12
15	Palomar Medical Center	Central Plant	6
16	Hoag Memorial Hospital Presbyterian	Inpatient Tower - 1974 Women's Center and Emergency Room	18
17	Southwest Healthcare System	Administration	9
18	Orange County Global Medical Center	Administration	6
19	Riverside Community Hospital	Building B	12
20	Providence Little Company of Mary Medical Center Torrance	Original Hospital	21
21	Providence Little Company of Mary Medical Center San Pedro	Central Wing Tower West Wing & Entrance	12
22	Providence Little Company of Mary Medical Center San Pedro	Canopy	12
23	PIH Health Hospital - Downey	Original Nursing Tower	12
24	Martin Luther King, Jr. Community Hospital	Trauma Center	21
25	Kaiser Foundation Hospital - Ontario	Main Hospital	15
26	Redlands Community Hospital	Radiology Addition	9
27	Community Hospital of San Bernardino	North Hospital Diagnostic & Treatment Bldg.	12
28	Arrowhead Regional Medical Center		8
29	Arrowhead Regional Medical Center	Nursing Tower	19
30	Arrowhead Regional Medical Center	Central Plant	3
31	Adventist Health Simi Valley	Main Hospital Building North Pavilion Inpatient	12
32	Providence Saint John's Health Center	Tower	24
33	LAC+USC Medical Center	Inpatient Tower	12

No	Facility Name	Building Name	Number of Sensors
34	LAC+USC Medical Center	New Diagnostic and Treatment	20
35	Keck Hospital of USC		
36	Henry Mayo Newhall Hospital	Main Hospital - Original Building	12
37	Children's Hospital Los Angeles	Anderson Pavilion	12
38	Palmdale Regional Medical Center	Main Building	16
39	LAC/Olive View-UCLA Medical Center	Main Hospital Building	13
40	Keck Hospital of USC	Main Hospital	24
41	Antelope Valley Hospital	Hospital Tower Addition	12
42	Encino Hospital Medical Center	Main Tower / Basement / Mech Building	12
43	Hollywood Presbyterian Medical Center	South Wing	12
44	Hollywood Presbyterian Medical Center	D & T Tower	15
45	Good Samaritan Hospital	Main Hospital	15
46	Community Memorial Hospital - San Buenaventura	New 6 Story Hospital Tower - West	24
47	Ventura County Medical Center	Hospital Replacement Wing	24
48	Ventura County Medical Center	Fainer Wing - Building 304	12
49	Santa Barbara Cottage Hospital	Centennial Wing (Building I) (Arlington Pavilion)	9
50	St John's Regional Medical Center	Patient Tower	17
51	Marian Regional Medical Center	New Hospital Expansion	12
52	Kern Medical Center	Wing D	11
53	Tenet Health Central Coast Twin Cities Community Hospital	Main Hospital	9
54	George L. Mee Memorial Hospital	New Hospital	10
55	Natividad Medical Center	Acute Care (Building 500)	15
56	Mammoth Hospital	New Wing	10
57	St. Louise Regional Hospital	Hospital Building Area A	10
58	Kaiser Foundation Hospital-Santa Clara	Hospital - Phase I	18
59	Kaiser Foundation Hospital - Fremont	Hospital Patient Wing North	3
60	Kaiser Foundation Hospital - Fremont	Hospital North	12
61	Santa Clara Valley Medical Center	West Wing K Nursing (6006)	15
62	Santa Clara Valley Medical Center	Replacement Bed Building (Sobrato Pavilion) (6011)	20
63	O'Connor Hospital	Replacement Facility	16
64	Washington Hospital	Main Building	21
65	Stanford Health Care	Diagnostic Treatment Center	12
66	Kaiser Foundation Hospital - Walnut Creek	Phase II Hospital	16
67	UCSF Medical Center	Long Hospital	16
68	Mills-Peninsula Medical Center	New Hospital	24
69	Alameda Hospital	South Wing	12

No	Facility Name	Building Name	Number of Sensors
70	Eden Medical Center	Replacement Hospital	19
71	Alta Bates Summit Medical Center-Alta Bates Campus	1985 Building	12
72	UCSF Medical Center at Mission Bay	UCSF Benioff Children's Hospital	18
73	Priscilla Chan And Mark Zuckerberg San Francisco General Hospital and Trauma Center	Replacement Hospital	24
74	Kaiser Foundation Hospital - Oakland/Richmond	Hospital	18
75	Lucile Packard Children's Hospital Stanford	New LPCH Expansion Building	21
76	Stanford Health Care	New Stanford Hospital	36
77	California Pacific Medical Center - Van Ness Campus	New Acute Care Hospital	24
78	California Pacific Medical Center - Mission Bernal Campus	New Hospital	16
79	Kaiser Foundation Hospital - San Francisco	North Wing	18
80	Marinhealth Medical Center	06 - West Wing	12
81	Northbay Medical Center	Phase 1 Replacement Building	12
82	Novato Community Hospital	Hospital	12
83	Kaiser Foundation Hospital - Santa Rosa	Hospital	13
84	St. Joseph Hospital	Phase III Addition Building	11
85	Sutter Coast Hospital	Hospital Building	10
86	Huntington Memorial Hospital	West Tower	3
87	Kaiser Foundation Hospital - Los Angeles	LAMC Hospital - Phase I	3
88	Adventist Health White Memorial	Specialty Care Tower	3
89	Kaiser Foundation Hospital - Downey	Main Building	3


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Codes and Processes Committee

Draft Meeting Report/Minutes

May 12, 2022

July 14, 2022



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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Codes and Processes Committee**

Thursday, May 12, 2022
10:04 a.m. – 10:58 p.m.

Teleconference Meeting Access:
HBSB Teams CAP Committee
Access Code: 664-167-70

Committee Members Present

Michael O’Connor, Chair
Roy Lopez, Vice-Chair
Mike Hooper
Scott Jackson
Jim Malley

Consulting Member Present

Gary Dunger

HCAI Staff Present

Chris Tokas, FDD Deputy Director
Arash Altoontash
Richard Tannahill
Brett Beekman
Larry Enright
Bill Gow
Roy Lobo
Diana Navarro
Carl Scheuerman
Nanci Timmins
James Yi

HBSB Staff Present

Ken Yu, Executive Director
Evet Torres

1 **1. Call to Order and Welcome**

2 Michael O’Connor, Committee Chair, called the meeting to order on May 12, 2022, at
3 10:04 a.m., and HBSB Executive Director, Ken Yu called roll.

4

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

6 Six members of the Committee present constitute a quorum. There being five present at

1 the time of roll, a quorum was not established.

2 Mr. Yu read the meeting rules and procedures.

3

4 **3. California Building Standards Code Revision Cycle for 2022 and Intervening**
5 **Code Cycle**

6 **Presenter: Richard Tannahill, HCAI**

7 Mr. Tannahill stated that final copies of the draft review have been completed and will
8 be published in July 2022. Enforcement of the draft will begin in January 2023. He
9 added that the Building Standard Commission has asked not to make name changes,
10 OSHPD to HCAI, until the next intervening code cycle.

11

12 Mr. Tannahill gave an update on:

13 **Part 1 California Administrative Code**

- 14 • NPC-5 update
- 15 • Emergency submittal time limitation
- 16 • Clarify license for civil engineers
- 17 • Look at options for fire protection engineers
- 18 • Require all submittals to be electronic
- 19 • Keep annual building permits
- 20 • The nonrefundable fee for geotechnical submission
- 21 • Clarify the scope of architects with secondary structural designs
- 22 • Revise IOR certification fees by adding late recertification and rescheduling fees

23

24 **Part 2 California Building Code**

- 25 • Further coordination with the new FGI guidelines
- 26 • Adding continuous observation at pediatric patients' rooms and play areas by
27 staff to align with Title 22
- 28 • Clarify resuscitation requirements for LDR/LDRPs
- 29 • Outside exposure for psych – consideration translucent screen for privacy in
30 patients' rooms

- 1 • Handwashing station in the anteroom is optional and only required if there is
- 2 none in the patient room. This is in alignment with plumbing code table 4-2
- 3 • Remove all references to licensing.
- 4 • Revise definition: INTERIM EQUIPMENT means temporary equipment that will
- 5 be in use for the duration of the need for the equipment during construction
- 6 • Relook at fast track requirements.
- 7 • Clarify where a minimum net glazed area for psychiatric units, not less than 8
- 8 percent of the floor area of each indoor activity space and dining space shall be
- 9 provided.
- 10 • Verify a Medication Room is still required in an ED.
- 11 • Clarify language for space requirement for rehab
- 12 • Define and provide requirements for Behavioral Health Observation Unit
- 13 • Add NICU gowning back into code.
- 14 • Remove OSHPD 2A and 2B and clarify the language.
- 15 • Relook at the 2019 code cycle pharmacy space requirements.
- 16 • Revise language for Procedure Rooms and Class 2 Imaging for procedures
- 17 • Add med gas outlet requirements for Procedure Rooms and Class 2.
- 18 • Look at the location of common patient toilet in a nursing unit.
- 19 • Add sterile core to Table 1224.4.11
- 20 • Medical service for psychiatric hospitals
- 21 • Define tamper resistance
- 22 • Add definition of Start of construction as ICC has dropped it.
- 23 • Cath Lab, in addition to a Cardiac Cath Lab
- 24 • Remove tub requirements for SNFs.

25

26 Mr. Gow gave a report on:

27 **Part 3 California Electrical Code**

- 28 • Add electrical coordination requirements to Type 2 essential electrical systems to
- 29 align with NFPA 99
- 30 • Add language preventing electrical panels serving patient care spaces from
- 31 being installed in public access spaces to align with NFPA 99

- 1 • Revise OSHPD electrical generator testing requirements in CEC 700.3(A) to
2 clarify testing, including the parallel switchgear, EPSS distribution equipment,
3 and transfer switches. This change aligns with the requirements in CBC
4 2702.1.3
- 5 • Clarify essential electrical system receptacles and light switches marking
6 requirements in CEC 517.31(E) and CEC 517.42(E).

7

8 Mr. Enright gave a brief report on:

9 **Part 4 California Mechanical Code**

- 10 • Revise CMC 3201.1 and 408.1.5 to coordinate with adiabatic humidification in
11 2013 ASHRAE 170 section 6.6.3
- 12 • Coordination of CMC table 4A temperature requirements for OSHPD rooms not
13 inn ASHRAE 170 Table 7.1 previous requirement in 2016 CMC 320.1
- 14 • Revise pressurization and air change rate for HD anteroom in CMC table 4A to
15 coordinate with USP 800 requirements.
- 16 • Generator exhaust distances to opening and forced air intakes.
- 17 • Prohibit desiccant wheels
- 18 • Filter ratings to coordinate with CEC and CALGreen.

19

20 Mr. Enright briefed on:

21 **Part 5 California Plumbing Code**

- 22 • Enhance language for emergency water
- 23 • Enhance language for emergency waste
- 24 • Clarify patient shower ADA and drain recurring issues
- 25 • Consider removing sensor faucets in SNFs and PE environments.
- 26 • Dead legs in hot water systems– maximum length allowed if any.
- 27 • Essential power requirement for hot water alarm
- 28 • Airborne infection Isolation Room handwashing fixture requirement to coordinate
29 with part 2
- 30 • Dialysis piping materials to coordinate with current standards.

31

32 Mr. Tannahill reported on:

33 **Part 10 Existing Building Code**

- 1 • Deleted section 301.5 but 301A is still there
- 2 • Deleted sections 502.6 and 503.145, but 502A and 7, and 503.14 and 15 are still
- 3 there
- 4 • Clarify seismic ground motions will confirm the requirements in ASCE 7-10 for
- 5 SPC-4D buildings
- 6 • Clarification of the SPC-4D, 1 percent drift trigger for upgrade of Article 10 items.

7

8 **Discussion and Input**

- 9 • None

10

11 **Informational and Action item**

- 12 • None

13

14 **4. Draft Policy Intent Notice (PIN)/ Code Application Notice (CAN) for emergency**

15 **projects**

16 **Presenter:** Richard Tannahill, HCAI

17 Mr. Tannahill shared the new PIN:

- 18 • Added definition of emergency repair and requirements for temporary equipment.
- 19 • The PIN will address applicable code sections: California Building Code Part 2
- 20 vol 1, section 105.2.1, and California Administrative Code, chapter 7.
- 21 • It will contain the ‘purpose of the emergency work,’ which is necessary for
- 22 equipment failure.
- 23 • HCAI will consider and may issue an emergency authorization to proceed with
- 24 emergency work before plan approval and building permit based on emergency
- 25 conditions and necessity.
- 26 • It will entail immediate actions in case of an emergency in facilities. Such
- 27 emergency actions may be taken before contacting HCAI. HCAI shall authorize
- 28 all emergency repairs, restorations, or replacements. Mr. Tannahill pointed out
- 29 that subsequent Amended Construction Documents shall document all changes
- 30 to active permitted projects with IOR inspections.
- 31 • The PIN will cover notification to HCAI and emergency authorization provided by
- 32 the RCO. Mr. Tannahill added that it is the facility’s responsibility to notify the
- 33 California Department of Public Health Licensing and certification of the
- 34 emergency condition and their request to HCAI for approval of emergency
- 35 repairs, replacement, or temporary equipment project.

- 1 • Mr. Tannahill mentioned redirection for submitting a request for HCAI emergency
2 authorization procedure. These entail the basic information required for a project,
3 description of proposed work, and justification for the emergency.
4

5 **Discussion and Input**

6 On Part 2 Vol. 1 and Article 20, Part 1, Mr. Tokas briefed on the CAN requirements on a
7 facility to demonstrate whether something is an emergency or not. This clarifies what is
8 already in the code.
9

10 **Informational and Action item**

- 11 • None.
12

13 **5. Emergency Design Task Force**

14 **Presenter:** Chris Tokas and Richard Tannahill, HCAI

15 Mr. Tannahill gave an update on the emergency design guide. He explained the draft
16 chapters of the guide.

- 17 • Chapter 1, an introduction, the need for the guide, and who should be using the
18 guide.
- 19 • Chapter 2 contains emergency patient room ventilation conversion requirements.
- 20 • Chapter 3 has emergency operation planning to accommodate surge capacity.
21 He stated that the focus would be on different types of emergency layouts that
22 can be used. This chapter also gives direction on how to get a temporary request
23 for flexibility under emergency conditions through CDPH.
- 24 • Chapter 4 entails spaces that can be split into multiple zones.
- 25 • Chapter 5 is about HVAC system considerations for handling smoke during
26 wildfires.
- 27 • Chapter 6 answers on how to expedite emergency projects better
- 28 • Chapter 7 coordinates with other jurisdictions for temporary surge facilities and
29 alternate care sites.
- 30 • Chapter 8 has examples of technology and equipment.
31

32 **Discussion and Input**

33 Mr. O'Connor appreciated that fact that there is a guide in case of an emergency.

34 **Informational and Action item**

- 1 • None.

2

3 **6. HCAI Preapproved Details (OPD)**

4 **Presenter:** Michael O'Connor, Committee Chair

5

6 **Discussion and Input**

7 Mr. O'Connor expressed that Ms. Timmins has updated Fire Life Safety pre-approved
8 details. He asked Ms. Timmins about the current status of the website's visual
9 accessibility to enable downloads. Ms. Timmins answered that the accessibility format is
10 causing issues. Mr. Tannahill added that the downloads are available on the website.

11 Mr. O'Connor stated that there is a tracking system in place to track the progress of
12 OSHPD approved details.

13

14 **Informational and Action item**

- 15 • None.

16

17 **7. Comments from the public/Committee members on issues not on this agenda**

18 **Presenter:** Michael O'Connor, Committee Chair

19

20 **Discussion and Input**

- 21 • None

22

23 **Informational and Action item**

- 24 • None.

25

26 **8. Adjournment**

27 Mr. O'Connor adjourned the meeting on May 12, 2022, at approximately 10:58 a.m.

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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Codes and Processes Committee**

**Thursday, July 14, 2022
10:00 a.m. – 4:00 p.m.**

Teleconference Meeting Access:

[HBSB Teams CAP Committee](#)

Access Code: 466-558-107

Committee Members Present

Michael O'Connor, Committee Chair
Louise Belair
Mike Hooper
Scott Jackson
Jim Malley
Farzad Naeim

HCAI Staff Present

Arash Altoontash
Richard Tannahill
Brett Beekman
Larry Enright
Bill Gow
Roy Lobo
Diana Navarro
Carl Scheuerman
James Yi

Consulting Members Present

Gary Dunger
Mark Hershberg

HBSB Staff

Ken Yu, Executive Director
Evet Torres

1. Call to order and Welcome

Roy Lopez, Committee Chair, called the meeting to order on June 14, 2022, at 10:00 a.m., and HBSB Executive Director, Ken Yu called roll.

4

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

2 Six members of the Committee present constitute a quorum. There being eight present
3 at the time of roll, a quorum was established.

4
5 Mr. Yu read the public announcement regarding COVID-19, meeting rules and
6 procedures.

7
8 **3. Review and approve of the May 12, 2022 draft meeting report/minutes**

9 **Presenter:** Michael O'Connor, Committee Chair

10
11 Mr. O'Connor gave a brief report of the May 12, 2022 meeting. The topics discussed
12 included

- 13
14 • Part 1 California Administrative Code
15 • Part 2 California Building Code
16 • Part 3 California Electrical Code
17 • Part 4 California Mechanical Code
18 • Part 5 California Plumbing Code
19 • Part 10 Existing Building Code

20
21 **Discussion and Input**

- 22 • None
23

24 **MOTION: [Jackson/Belair]**

25 The committee voted to approve the May 12, 2022 meeting report/minutes with the
26 following corrections noted:

- 27 • Page 7, Line 11 should read: Mr. O'Connor stated that there is a tracking system in
28 place to track the progress of OSHPD approved details.
29 • Page 3, Line 10 should read "medication room" not "medical room."

30 **Informational and Action item**

- 31 • None
32

33 **4. Draft Policy Intent Notice (PIN)/ Code Application Notice (CAN) for emergency**
34 **projects**

35 **Presenter:** Richard Tannahill, HCAI
36

1 Mr. Tannahill stated that the purpose of the PIN 72 is for emergency work that may be
2 necessary due to permanent equipment failure, natural disaster, or other occurrences
3 that require immediate repair or replacement to ensure job site or building occupant
4 health or safety.

5
6 Mr. Tannahill discussed the procedure of PIN 72:

- 7
- 8 • Immediate action – abate emergency prior to contacting HCAI
- 9 • Notification to HCAI and request for Emergency Authorization to Proceed (EAP)
- 10 • When an EAP is denied, construction may not proceed until plan approval, and a
11 building permit has been issued by HCAI
- 12 • When an EAP is approved, construction may commence before plan approval
13 and building permit per the requirements and conditions of the emergency
14 authorization approval. The following applies to each emergency project:
 - 15 ○ DPOR shall provide the necessary direction and provide all the required
16 documentation.
 - 17 ○ Plans must be submitted within ten days of the EAP and backcheck
18 comments should be returned within ten days as well.
 - 19 ○ Construction work on the emergency project must be carried out without
20 any delays.
 - 21 ○ If the plan or approval is delayed, it becomes an unauthorized construction
22 project.
 - 23 ○ DPOR is responsible for submitting the TIO.
 - 24 ○ All the emergency authorization work must be continuously inspected by
25 an IOR approved by the office.
 - 26 ○ Substantial compliance will be added to the TIO so that they can continue
27 to use the facility once the corrections are put into place.
 - 28 ○ If additional corrections and approvals are required, additional drawings
29 may be submitted for approval.
- 30 • Special conditions and exceptions for emergency projects involving temporary
31 equipment and/or building components:
 - 32 ○ Temporary equipment and systems may be required to protect occupant
33 safety and maintain services during the repairs. Temporary equipment
34 installed under an emergency authorization must comply with the
35 requirements of HCAI CAN 2-108. All emergency temporary equipment is
36 required to be removed prior to project closure.

- 1 ○ The HCAI RCO may, at their discretion, exempt the submittal of plans for
- 2 temporary equipment in place less than 30 days.
- 3 ○ Emergency projects exempted from plan approval may be closed under
- 4 typical closure requirements or may be closed administratively as
- 5 determined on a case-by-case basis of each project.

6 **Discussion and Input**

- 7 • Mr. O'Connor asked if there are 10 days from declaration to submittal, unless there
- 8 is a request made to HCAI for an additional 10 days. Mr. Tannahill confirmed that
- 9 was correct.

10

11 **Information and Action item**

- 12 • None.

13

14 **5. California Building Standard Code revision cycle for 2022 and intervening**

15 **code cycle**

16 **Presenter:** Richard Tannahill, HCAI

17

18 Mr. Tannahill presented the following changes:

19

20 **2022 Administrative Code Part 1 Intervening**

21

- 22 • 7-111- changed definitions – for Managed Projects, the words “and construction”
- 23 were removed and for Start of Construction, the word “placement” was removed
- 24 upon CAC’s request.
- 25 • 7-113- Application for Seismic Compliance, removed requirements for paper
- 26 reviews, and clarified that a project may be divided into parts, provided that each
- 27 part is clearly defined by an architectural building or similar distinct unit.
- 28 • 7-115- removed some requirements for paper and added clarification that
- 29 architects may prepare construction documents and reports as permitted by their
- 30 license.
- 31 • 7-117- removed the number of copies required for paper submittals.
- 32 • 7-119- updated the name of the behavioral health guide.
- 33 • 7-125- deleted the line allowing backcheck comments be put directly on a
- 34 drawing since that is not possible on an electronic review.
- 35 • 7-133- pulled out the annual building permits and on cost reduction, added that
- 36 the Office shall charge for review and approval, a total of which will be non-
- 37 refundable.
- 38 • 7-134- changed “approval” to “acceptance” of the TIO program.

- 1 • 7-144- for Inspection, clarified lead IOR responsibilities.
- 2 • 7-153- clarified that new details that are referenced standards or preapproved
- 3 details, can be added as NMAs
- 4 • 7-155- changed the word “inspection” to “review” on the final approval of work.
- 5 • 7-206- added fees to the IOR certification.
- 6 • 7-211- added the words “application and” to recertification exam fee.
- 7 • 7-215 added a code of conduct for inspectors of records.
- 8 • 7-300- added 10 days for temporary authorization for emergency projects so it
- 9 aligns with the PIN.

10

11 **2022 Building Code Part 2, Volume 1 Intervening**

- 12 • 1.1- Removed OSHPD 2A and 2B
- 13 • 202- changed the definition for interim equipment, language changed on patient
- 14 room, and added definition of a treatment room.
- 15 • 1244.4- language changed to Medication Station and Medication Preparation
- 16 Room. Added Procedure Room and Class 2 Imaging Room to med gas table.
- 17 Changed interventional to Class 2 and 3 Imaging, Procedure Room above line
- 18 39.
- 19 • 1244.4.8.1- removed table 4-2 in alignment with the Plumbing Code.
- 20 • 1244.4.7.1- Corridors, removed the term “psychiatric care of patients who are not
- 21 bedridden” to “hospital for patients who are not bedridden” in alignment with state
- 22 fire marshal, and added “stretchers”.
- 23 • 1244.4.7.3- removed Occupancy I-2.1 from the code.
- 24 • 1244.4.9- Windows and Screens, added language for special nursing care areas
- 25 to align with Title 22.
- 26 • 1224.4- Added Sterile Core to Table 1224.4.11 under Surgical Units and revised
- 27 language for Class 1 Imaging Room.
- 28 • 1224.15- Clarified surgical space.
- 29 • 1224.18.3.1- clarified clearance requirements for CT equipment.
- 30 • 1224.19 Requirement for pharmaceutical service space
- 31 • 1224.22.1- Removed the word “and” and added the word “or” in central sterile
- 32 supply distinct spaces.
- 33 • 1224.24 Morgue and Autopsy Facilities- added language to clarify number of
- 34 beds in morgue and autopsy facilities to align with Title 22.

- 1 • 1224.29 Intensive Care Units- added “gowning area” as a requirement for NICU.
- 2 • 1224.30 Pediatric and Adolescent Unit- “play area” changed to “playroom.”
- 3 • 1224.32- clarified language for infant resuscitation space in LDR and LDRP
- 4 facilities.
- 5 • 1224.33.2.7-clarified behavioral health observation area.
- 6 • 1224.33.3.15- Changed language for staff lounge.
- 7 • 1224.34 Nuclear Medicine- clarified when a CT is required or not.
- 8 • 1225.4- removed minimum requirement of one bathtub per floor in Skilled
- 9 Nursing Facilities.
- 10 • 1226.6 Primary Care Clinics- clarified that the space for dental x-rays shall
- 11 comply with shielding requirements.
- 12 • 1228 Acute Psychiatric Hospitals- clarified to match 1224.31.
- 13 • 1228.3- added definition of temper resistance under psychiatric hospitals.
- 14 • 1228.4.9- added that translucent film may be used up to 60” for privacy.
- 15 • 1228.13- added the words “ where provided” back in the physical therapy service
- 16 space.
- 17 • 1228.14- clarified psychiatric patient rooms.
- 18 • 1228.14.2.5- added a pointer for examination and treatment room.

19

20 **2022 Building Code Part 2, Volume 2 Intervening**

21 Mr. Tannahill stated that OSHPD 2A and 2B were to be changed back to just 2.

22

23 **2022 Part 3 Intervening Code Express Terms**

24 Mr. Schnick presented the following changes:

- 25 • 517.13- changes included adding in testing requirements to the California Electric
- 26 Code.
- 27 • 517.18- clarified the language on patient beds.
- 28 • 517.31- identification of emergency receptacles.
- 29 • 517.42- brought coordination from the hospitals into the SNFs.
- 30 • 695.3- modified the fire pump code to clarify all OSHPD facilities require transfer
- 31 switches for their critical life safety equipment requirements.
- 32 • 700.3- made provisions to connecting a portable or temporary generator.

1 **2022 California Mechanical and Plumbing Codes Part 4**

2 Mr. Enright presented the following changes:

- 3 • 320.1.1- brought in requirements for dry steam and adiabatic type humidification.
- 4 • 323.0- brought in generator exhaust requirements for door and window openings.
- 5 • 402.1.2- brought in previous modifications for relief air discharge.
- 6 • 407.1.2- clarified that ductwork in the building shall be under negative pressure.
- 7 • 407.2.1- brought in requirement for areaway with outside air intake located
- 8 below grade.
- 9 • 408.1.5- removed the limiting language of dry steam.
- 10 • Table 4-A- added the temperature requirement in the design temperature
- 11 column. Footnote ac. added requirement for 75 cmf back into the code. Footnote
- 12 ad.- brought in the upc compound area requirements.
- 13 • Table 4-B- Added minimum filtration requirements.

14 15 **2022 California Plumbing Codes Part 5**

- 16 • 2010.0- added requirements for handwashing fixtures
- 17 • 321.0- clarified that hot water high temperature alarms shall be connected to
- 18 essential power.
- 19 • 310.9- added compounding ante and buffer rooms.
- 20 • Table 422.1- added that separate toilet rooms are not required when there are
- 21 less than five employees.

22 23 **2022 Existing Building Codes Part 10 Intervening**

24 Mr. Tannahill presented the following changes:

- 25 • Removed Section 301A.5 to align with ICC.
- 26 • 321A.3- language changed to coordinate with the fire marshal requirement.

27 28 **Discussion and Input**

29 Ms. Belair asked for clarification in the code on mechanical engineers stamping of fire
30 protection drawings. Mr. Enright answered that the document is signed and stamped by
31 the architect or an IOR.

32
33 An interested party pointed out that the responsibilities of the lead IOR need to be
34 revisited.

1 Mr. Dunger asked if the removal of annual building permits was viable since it is a
2 statutory requirement. Mr. Tannahill answered that the committee would look into that.

3
4 An interested party asked if the language change to the patient room meant that it
5 counts as a licensed patient bedroom. Mr. Tannahill answered that no, it would be an
6 addition.

7
8 Ms. Belair asked if the treatment room required for med gas is covered in Section
9 1244.4. Mr. Tannahill said that treatment rooms are covered in line 2.

10
11 An interested party asked if there was anything in the FGI guidelines that addressed the
12 behavioral health observation area. Mr. Tannahill answered that since he had just
13 received a copy he would cross-check that.

14
15 Ms. Belair asked if article 517.18 General Care Spaces refers to OSHPD 2. Mr. Gow
16 answered that a hospital could have skilled nursing beds but be an OSHPD 1 building.

17
18 An interested party asked if there was guidance regarding the addition of footnote 7 in
19 table 422.1. Mr. Tannahill answered that the toilets are set according to the number of
20 workers in a department and not a facility, which is less than five employees to use one
21 toilet.

22
23 Mr. O'Connor asked what was the best way for committee members to give feedback
24 on the presentations. Mr. Tannahill answered that the slides would be posted on the
25 HCAI website, and feedback should be sent to Ms. Torres at
26 HBSBSupportStaff@hcai.ca.gov.

27
28 Ms. Belair asked what the timeline was on the changes. Mr. Tannahill stated that the
29 timeline would be the committee's next meeting on October 13, 2022.

30
31 **MOTION: [Naeim/Belair]**

32 The committee voted unanimously to endorse the effort that HCAI has put in and the
33 direction they are headed.

34
35 **Information and Action item**

- 36 • None.
37
38

39 **6. HCAI Preapproved Details (OPD)**

40 **Presenter:** Michael O'Connor, Committee Chair

1 Mr. O'Connor stated that capitalizing on Ms. Timmins' great webinars on fire life safety,
2 a Wall Assembly Intersection Priorities detail was shared with her for consideration.

3
4 **Discussion and Input**

5 Mr. Tannahill asked if there were any considerations on pre-approved details for
6 common anchorage requirements. Mr. O'Connor answered that there is a shared
7 objective with the Structural and Non-structural Committee relative to pre-approved
8 details, and equipment and anchorage are included.

9
10 **Information and Action item**

- 11 • None
12

13 **7. Comments from the public/committee members on issues not on this agenda**

14 **Presenter:** Michael O'Connor, Committee Chair
15

16 **Discussion and input**
17

18 Mr. O'Connor announced that the next committee meeting would be on October 13,
19 2022.

20
21 **Information and Action item**

- 22 • None
23

24 **8. Adjournment**

25 Mr. O'Connor adjourned the meeting on June 14, 2022, at approximately 11:53 a.m.

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Education and Outreach Committee

Draft Meeting Report/Minutes

May 25, 2022

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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Education and Outreach Committee**

**Wednesday, May 25, 2022
10:00 a.m. – 4:00 p.m.**

Teleconference Meeting Access:
[HBSB Teams EO Committee](#)
Access Code: 127-072-398

Committee Members Present

Louise Belair, Vice Chair
Deepak Dandekar
Bert Hurlbut
Scott Mackey
Bruce Rainey

Consulting Member Present

Gary Dunger

HCAI Staff Present

Chris Tokas, FDD Deputy Director
Richard Tannahill
Monica Colosi
Mickey Fong
Bill Gow
Joe LaBrie
Cesar Ponce
Nanci Timmins
James Yi

HBSB Staff Present

Ken Yu, Executive Director
Evet Torres

1 **1. Welcome and introductions**

2 Louise Belair, Vice Chair, called the meeting to order on May 25, 2022, at 10:00 a.m.,
3 and HBSB Executive Director, Ken Yu called roll.

4

1 **2. Roll Call And Meeting Advisories/Expectations**

2 Six members of the Committee present constitute a quorum. There being six present at
3 the time of roll, a quorum was established.

4
5 Mr. Yu read the meeting rules and procedures.

6
7 **3. Planning and development of education webinars**

8 **Presenter:** Louise Belair, Vice Chair

9 Ms. Belair presented the webinar topics:

- 10 • Offsite fabrication/pre-assembled components
- 11 • California Administrative Code
- 12 • Policy Intent Notice PIN 50 – possible date: May 2022
- 13 • Emergency Process Design Guide – possible date: June/July 2022
- 14 • Pre-approvals related to Medicine Dispensing Units and Emergency projects
- 15 • OSHPD 3 Special Seismic Certification presentation
- 16 • Testing, Inspection, and Observation program (Inspection Services Unit topic)
- 17 • PINs and Codes application notices (Fire Prevention Unit topic)

18
19 **Discussion and Input**

20 **Offsite fabrication/pre-assembled components** - On the first topic, Mr. Tannahill
21 stated that they needed to know how they would do the presentation. Mr. Tokas added
22 that for the webinar to be presented, there is a need to know what is required to be
23 submitted, how it will be reviewed, the outcome, and how it will incorporate into future
24 projects. Mr. Mackey suggested that the webinar be presented in the fall. Mr. Hurlbut
25 asked for an update on the projects that have come in. Mr. Tokas answered that all
26 projects are different and depend on the project specificity, but the Building Code
27 requirements are all the same. Mr. Hurlbut asked if the requirements were the same for
28 the entire bathroom or just pipes in the ceiling. Mr. Tokas said that all units are not the
29 same, like the meeting room and bathrooms. Those are units that will be incorporated in
30 future designs. Ms. Belair added that the first webinar topic is about making sure the
31 community is aware of the process and what it takes to get through it. Ms. Belair asked
32 if anyone was interested in participating in the webinar. Mr. Mackey volunteered to
33 assist in preparing the webinar. A public member wanted some topics included in the
34 fabrication webinar such as mechanical skids, prefabricated plumbing, and med-gas

1 systems. Mr. Tokas mentioned the topics can be included but more on a performance
2 basis because every building is different.

3

4 **California Administrative Code** - Mr. Tannahill expressed that the California
5 Administrative Code is still being developed and will give an update when it is ready. He
6 suggested the webinar be presented in August 2022.

7

8 **PIN 50** – Mr. Tannahill said that the webinar is ready to go, they just need a presenter. It
9 was scheduled to be presented in May 2022. Mr. Dunger and Ms. Belair volunteered to
10 co-present the webinar. The webinar was rescheduled to July 2022.

11

12 **Emergency Process Design Guide** – Mr. Tannahill affirmed that they are putting
13 together a final draft and will be pushed by July 2022. Mr. Tokas estimated the
14 presentation to be done by November 2022. Mr. Dunger and Ms. Endres volunteered to
15 co-present the webinar. Ms. Belair asked if the materials for the webinar would be
16 developed once the document was published. Mr. Tannahill stated that they would be
17 using the document's content, so they will finalize the presentation as soon as it is
18 published.

19

20 **Pre-approvals related to Medicine Dispensing Units and Emergency projects** –
21 Mr. Tannahill announced that the Emergency Projects webinar would be ready for
22 presentation in June 2022. The medicine dispensing unit webinar is on hold. Mr. Dunger
23 asked, since the emergency project is a topic in the Emergency Process Design Guide,
24 if they would be presented as one or separately. Mr. Tannahill said that the focus is on
25 Emergency Authorization PIN, so emergency project authorization will be presented
26 separately. Mr. Dunger asked what the issue was with the medicine dispensing units.
27 Mr. Tannahill explained that HCAI is setting up a pre-approval system and building
28 permit process to install dispensers a lot easier.

29

30 **OSHPD 3 and Special Seismic Certification presentation** – Mr. Tokas expressed
31 that these are two different topics already discussed. Still, if the board needs a refresher,
32 the committee is willing to do so. Ms. Belair asked the committee if they felt the need for
33 a refresher. Mr. Dunger suggested that the OSHPD 3 be geared towards Fire Life
34 Safety. Mr. Dunger, Mr. Tannahill, and Mr. Khorram volunteered to assist in coming up
35 with a skeleton of this presentation so that the committee could decide on whether to
36 have a refresher or not. The committee agreed to review the presentation at the next
37 committee meeting on August 17, 2022.

38

1 **Testing, Inspection, and Observation program (Inspection Services Unit topic)**

2 Mr. LaBrie stated that the presentation is not yet ready and asked Mr. Hurlbut to assist
3 with the topic. He also asked the committee for a designer who could participate in the
4 presentation. Mr. Mackey volunteered to be the designer support on this topic, and Mr.
5 Hurlbut also volunteered. Mr. Davis explained that the new version of TIO is already on
6 the HCAI website.

7
8 **PINs and Code Application Notices (CAN) (Fire Prevention Unit topic) – Ms.**

9 Timmins expressed that the topics in the presentation are CAN 2-703.3, PIN 57, PIN 69,
10 and CAN 2-508. Ms. Belair asked if the CANs would be presented separately. Ms.
11 Timmins answered yes, since there are several different CANs. Ms. Timmins pinpointed
12 the target date within the next couple of months.

13
14 **Informational and Action item**

- 15 • None

16
17 **4. Planning and development of a 2023 seminar**

18 **Presenter: Louise Belair, Committee Vice Chair**

19 **Discussion and Input**

20 Belair Communicated that in the last committee meeting there was a suggestion to
21 revamp the seminar on Tips From the Experts. She asked if there were any suggestions
22 on the topic. Mr. Tokas expressed a need to rewrite the publication and the committee
23 agreed. Ms. Belair asked Mr. Tokas if there were specific areas on this topic that he
24 may need help with. Mr. Tokas said that since a lot has changed, every chapter needs
25 to be looked at and updated according to the California Building Code. Mr. Rainey
26 asked for the link to the guide to be added to the minutes. The estimated date for the
27 seminar will be the end of 2023.

28 Ms. Belair announced that once the committee reviews the document, there will be a
29 scheduled committee session to go over the document, propose some changes, and
30 discuss the next steps.

31 **Informational and Action item**

- 32 • The link to the Guide for Working on Projects Under OSHPD Jurisdiction: Tips From
33 the Experts is: [https://hcai.ca.gov/document/guide-working-on-projects-osHPD-
34 jurisdiction-tips-from-experts/](https://hcai.ca.gov/document/guide-working-on-projects-osHPD-jurisdiction-tips-from-experts/)

1 **5. Comments from the public/committee members on issues not on this agenda**

2 **Presenter: Louise Belair, Committee Vice Chair**

3

4 **Discussion and input**

5 • None.

6

7

8 **Informational and Action item**

9 • None.

10

11 **6. Adjournment**


12 Ms. Belair adjourned the meeting on May 25, 2022, at approximately 10:44 a.m.

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Energy Conservation and Management Committee

Draft Meeting Report/Minutes

June 14, 2022



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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Energy Conservation and Management Committee**

**Tuesday, June 14, 2022
10:00 a.m. – 4:00 p.m.**

Teleconference Meeting Access:

[HBSB Teams ECM Committee](#)

Access Code: 840-158-903

Committee Members Present

Roy Lopez, Committee Chair
Scott Jackson, Vice-Chair
Louise Belair
David Bliss
Deepak Dandekar
Bruce Rainey

Consulting Members Present

Eric Johnson
David Lockhart

HCAI Staff Present

Arash Altoontash
Richard Tannahill
Larry Enright
Bill Gow
Carl Scheuerman
Jamie Schnick
Nanci Timmins
James Yi

HBSB Staff Present

Ken Yu, Executive Director
Evet Torres

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

2 Roy Lopez, Committee Chair, called the meeting to order on June 14, 2022, at 10:00
3 a.m., and HBSB Executive Director, Ken Yu called roll.

4

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

6 Seven members of the Committee present constitute a quorum. There being eight
7 present, a quorum was established.

1 Mr. Yu read the public announcement regarding COVID-19, meeting rules and
2 procedures.

3

4 **3. Microgrid Task Force**

5 **Presenter:** Jamie Schnick, HCAI

6

7 Mr. Schnick gave an update on the microgrid projects, which are five Skilled Nursing
8 Facilities s in Northern California and Kaiser Ontario microgrid.

9

10 Mr. Schnick discussed the requirements for microgrids to be used as emergency power
11 sources:

12

- 13 • Special Seismic Certification for DERs and components
- 14 • Use of listed products – UL 3001
- 15 • HCAI review of DERs
- 16 • 72 hours of on-site fuel storage for DERs
- 17 • Commissioning/retro-commissioning requirements

18

19 Mr. Schnick explained that the microgrid design guide would help with implementing
20 microgrids in healthcare facilities where it can be used parallel with the normal system
21 or as an emergency power source.

22

23 Mr. Schnick gave a list of the upcoming microgrid education events.

24

- 25 • PSPS presentation at CHSE (Silicon Valley) June 30th
- 26 • CSHE Microgrid Panel Presentation – SOCAL (Long Beach) Sept 20th
- 27 • CSHE Microgrid Panel Presentation – NORCAL (Fairfield) Oct 20th
- 28 • Health Facilities Symposium & Expo – (Long Beach) Sept 27th – 29th
29 “Implementing Healthcare Microgrids at New/Existing Facilities.”
- 30 • Microgrid 2023 (Anaheim) May 16th – 17th

31

32

33 **Discussion and Input**

34

35 Mr. Vernon discussed the NFPA-70 National Electrical, which has approved using
36 microgrids as a power source. Mr. Griffiths asked where CMS licensing is in terms of
37 the White Paper. Mr. Vernon stated that CMS is working on the licensing issue.

38

1 Mr. Vernon added that the board should be working on the fuel shortage issue.
2 Mr. Schnick detailed that if there could be a fuel cell that uses natural gas and diesel as
3 a backup, that would resolve the fuel shortage issue.

4

5 An interested party asked what HBSB uses as its definition of a microgrid. Mr. Schnick
6 answered that a microgrid is multiple sources controlled by a microgrid controller that
7 allows the onsite power generator to parallel the normal system and transition to island
8 mode.

9

10 Mr. Bliss asked if, on the HCAI website, there is a list or subscription service where new
11 education content is noticed out to interested parties. Mr. Schnick said that it was a
12 good idea, and the board would look into that and put it up.

13

14 Mr. Bliss suggested the idea of using hydrogen to power the microgrids. He added that
15 hydrogen could be easily made using water to power generators which may sort out the
16 fuel shortage issue. Mr. Schnick added that hydrogen could also be made by using
17 diesel generators to separate hydrogen from other chemicals and also using PVEs.

18

19 Mr. Griffiths asked how the committee would tackle the issues of channeling hydrogen
20 as an energy source. Mr. Schnick answered that a study is looking into that since HCAI
21 wants to use fuel cells that run on natural gas as a fuel source. Mr. Bliss explained that
22 there is research going on and that in terms of channeling, aluminum pipes would be
23 used.

24

25 **Informational and Action item**

- 26 • None

27

28 **4. Presentation: Resiliency for Healthcare Facilities – How fuel cells play a key** 29 **role**

30 **Presenter:** David Smith, Bloom Energy

31

32 Mr. Smith said that Bloom Energy uses solid oxide technology for creating and using
33 hydrogen as a fuel source. Mr. Smith explained that Bloom Energy helps healthcare
34 facilities in the following ways:

35

- 36 • Controlling electrical cost – use of low electrical margins hence low energy cost
37 leading to predictable energy cost.
- 38 • Reliable electrical grid – supports use of on-site microgrids.
- 39 • Sustainability – reduced water usage.

- 1 • Ensure good air quality – reducing harmful gas matter from diesel usage by
2 putting those gases into fuel cells.

3

4 Mr. Smith highlighted that fuel cells work by combusting electrical chemicals fuel into
5 electricity. The gases are methane, biogas, and hydrogen. Mr. Smith mentioned that the
6 Bloom Energy system operates on a blend of natural gas and hydrogen.

7

8 **Discussion and Input**

9 Mr. Griffiths asked if the microgrid were a PPA project. Mr. Smith stated that the
10 projects are handled in PPA format. During a utility power outage, Bloom Energy
11 kilowatts help keep the power running and the system loaded and operating.

12

13 Mr. Griffith asked what the steps are in case of a PSPS warning. Mr. Smith stated that
14 in case of an emergency warning, the customer can choose to go into elective microgrid
15 mode and still have full capacity Bloom Energy until the grid falls out and is not
16 available.

17

18 Mr. Dandekar asked how Bloom Energy would tackle the issue of natural gas being
19 expensive in future. Mr. Smith explained that in future, there would be so much
20 generation mix that relies on natural gas hence Bloom Energy will be cheaper.

21

22 Mr. Dandekar asked what was the percentage of methane gas used by Bloom Energy.
23 Mr. Smith answered that it is probably 97% at the moment.

24

25 Mr. Bliss asked if it would be cheaper to have a direct hydrogen source than having to
26 create the hydrogen. Mr. Smith stated that Bloom Energy does not use a lot to create
27 the hydrogen because it is produced from the steam.

28

29 **Information and Action item**

- 30 • None.

31

32 **5. Comments from the public/committee members on issues not on this agenda**

33 **Presenter:** Roy Lopez, Committee Chair

34

35 **Discussion and input**

36

37 Mr. Lopez announced that the next Committee meeting will be September 13, 2022.

38


39 **6. Adjournment**

40 Mr. Lopez adjourned the meeting on June 14, 2022, at approximately 12:44 p.m.

Structural and Nonstructural Regulations Committee

Draft Meeting Report/Minutes

June 22, 2022



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2020 West El Camino Avenue, Suite 800
Sacramento, CA 95833
hcai.ca.gov



**HOSPITAL BUILDING SAFETY BOARD
Structural and Nonstructural Regulations Committee**

**Wednesday, June 22, 2022
10:00 a.m. – 4:00 p.m.**

Teleconference Meeting Access:

[HBSB Teams SNRS Committee](#)

Access Code: 202-080-82

Committee Members Present

Jim Malley, Chair
Marshal Lew
Jennifer Thornburg

HBSB Staff Present

Veronica Yuke, Acting HBSB Executive Director
Evelt Torres

HCAI Staff

Chris Tokas, FDD Deputy Director
Arash Altoontash
Richard Tannahill
Joe LaBrie
Roy Lobo
David Neou
Carl Scheuerman
Ali Sumer

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

2 Jim Malley, Committee Chair, called the meeting to order on June 14, 2022, at 10:00
3 a.m., and Veronica Yuke, acting HBSB Executive Director, called roll.

4

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

6 Five members of the Committee present constitute a quorum. There being three present
7 at the time of roll, a quorum was not established.

8

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

1 **3. Discuss HCAI Policy Intent Notice (PIN)71 “Compliance plan requirements for**
2 **participants in the Small and Rural Hospital Relief Program”**

3 **Presenter:** Carl Scheuerman, HCAI

4
5 Mr. Scheuerman explained that the Small and Rural Hospital relief program is a grant
6 program for qualified hospitals to apply and receive funding for seismic safety
7 compliance projects.

8
9 Mr. Scheuerman stated that the benefits of the program are:

- 10
11 • Direct benefit to the community at risk of losing access to care at small and
12 remote facilities.
13 • Assists in organizing cost and time-efficient facility compliance programs.
14 • Sequential funding package opportunities to complete a compliance program.
15 • Case management services provided to oversee compliance program progress.

16
17 Mr. Scheuerman announced that the program has 65 facilities, and 127 General Acute
18 care buildings with either SPC 1 or SPC 2 ratings. He stated that the program
19 commenced on June 6th, 2022. The Accela portal was opened to facilitate file
20 applications for applicants to join the program and establish eligibility.

21 Mr. Scheuerman disclosed that the program requires applicants to have a current
22 compliance plan on file with FDD to serve as the basis for future grant requests.

23
24 Mr. Scheuerman said that PIN 71 was developed to provide the program with a
25 simplified roadmap for each facility to adopt to lead them through the program.
26 Participating hospitals with qualifying facilities will be eligible for funding in the following
27 phases:

- 28
29 • Pre-design services, including buildings structural evaluations, as provided in
30 Title 24, Part 1, Chapter 6, Article 2.
31 • Design phase activity includes design, project budgeting development, plan
32 review, and permitting.
33 • Construction phase activity.

34
35 **Discussion and Input**

36
37 Mr. Lew asked if there was a time limit for the program. Mr. Scheuerman answered that
38 the time limit was January 2030. Mr. Lew asked if there was a set amount or percentage
39 for the grant or if the grant would depend on the presented needs.

1 Mr. Scheuerman stated that the grant money would come in when ready and how much
2 need for the money is there at that particular time.

3

4 Mr. Malley asked how the grants are going to be awarded next year.

5 Mr. Scheuerman said that all applications are made through the eligibility portal, and the
6 grant's award will be based of first-come, first-serve. Mr. Tokas added that Cal-
7 Mortgage is going to grant funds to what is truly a requirement to meet the targeted
8 deadline.

9

10 Mr. Lew asked how the road map of the program is going to be structured since only
11 five applications have been done so far. Mr. Scheuerman communicated that the
12 applicants' compliance plan would provide technical assistance as a road map to show
13 how to scope up the needed information at the lowest cost.

14

15 **Informational and Action item**

- 16 • None

17

18 **4. Proposed amendments to the 2022 California Existing Building Code, Title 24,**
19 **Part 10**

20 **Presenter:** Roy Lobo and Ali Sumer, HCAI

21

22 Mr. Lobo and Mr. Sumer presented the proposed amendment to the 2022 California
23 Existing Building Code, Tittle 24, Part 10, in two parts:

24

- 25 • Amendments to Chapter 3A- to modify ASCE 41 Section 2.4 by response spectra
26 and acceleration time history shall be constructed in accordance with the
27 California Building Code Section 1613A, 1616A, and 1803A.6 or equivalent
28 provision in later version of CEBC.
- 29 • Amendments to Chapter 3A, SPC 4D drift limitation acceptance criteria.

30

31 **Discussion and Input**

32 Mr. Malley asked the difference between the 2016 CBC and the proposed 2022 CBC
33 mid-cycle. Mr. Sumer stated that the difference is how the response spectra are put
34 together.

35

36 **Information and Action item**

- 37 • None.

38

1 **5. Proposed amendments to the 2022 California Existing Building Code, Title 24,**
2 **part 2**

3 **Presenter:** Roy Lobo and Ali Sumer, HCAI
4

5 Mr. Sumer stated that amendments are made to Chapter 16A on interim equipment.
6 This will include aligning PIN 68 and CAN 2-108 so that interim equipment means
7 temporary equipment that will be in use for the duration of the need for the equipment,
8 not exceeding the duration of the construction project that it is related to.
9

10 **Discussion and input**
11

12 Mr. Lew asked how the removal of the interim equipment would be enforced. Mr. Sumer
13 answered that the field staff would write in the field visit report that the equipment needs
14 to be removed or justify an extension.
15

16 Ms. Thornburg proposed that the word 'temporary' be removed from the definition of
17 interim equipment.
18

19 **Information and Action item**

- 20 • None.
21

22 **6. Updates to PIN 55 OSHPD Special Seismic Certification Preapproval (OSP)**

23 **Presenter:** Roy Lobo and Tim Piland, HCAI
24

25 Mr. Piland stated that the changes to the PIN were updated requirements to match the
26 2019 CBC:

- 27 • Code reference to current code and name change from OSHPD to HCAI.
28 • Permit alternative shake table testing to ICC-ES AC156.
29 • Update of imaging equipment to a minimum of one X-ray or Fluoroscopy.
30 • Added requirements for acceptance of vibration isolations.
31 • Added FAQs from HCAI website.
32

33 Mr. Piland added that additions to PIN 55 were:

- 34 • Revision to flexible connections to distribution system clause.
35 • Updated OSP expiration date.
36 • Revision to supports, attachments, and orientation clause.
37 • Added subcomponent replacement within existing components.

1 **Discussion and input**

- 2 • None

3

4 **Information and Action item**

- 5 • None.

6

7 **7. Updates to PIN 58 OSHPD Approved Agency for Structural Tests and Special**
8 **Inspections**

9 **Presenter:** Roy Lobo and Jeff Kikumoto, HCAI

10

11 Mr. Lobo briefed that for PIN 58, the testing agencies must be certified under ISO/IEC
12 17025 and the inspections agencies must be certified under ISO/IEC 17020. He
13 communicated that PIN 58 has added the requirement of having a full-time engineering
14 manager.

15

16 **Discussion and input**

- 17 • None

18

19 **Information and Action item**

- 20 • None.

21

22 **8. Comments from the public/committee members on issues not on this agenda**

23 **Presenter:** Jim Malley, Committee Chair

24

25

26 **Discussion and input**

- 27 • None

28

29 **Information and Action item**

- 30 • None.

31

32 **9. Adjournment**

33 Mr. Malley adjourned the meeting on June 22, 2022, at approximately 11:39 a.m.

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Board Rosters

2022

- MEETING DATES
- BOARD MEMBERSHIP
- CONSULTING MEMBERS
 - COMMITTEE LIST

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2020 West El Camino Avenue, Suite 800
 Sacramento, CA 95833
 hcai.ca.gov



July 21, 2022

To: Members, Hospital Building Safety Board
 From: Ken Yu, Executive Director
 Subject: Upcoming Meeting Dates

Please make note of the following meeting dates. Agendas will be sent out separately.

DATE	MEETING	LOCATION
January 13, 2022 9 am – 3 pm	Structural and Nonstructural Regulations Committee	GoToMeeting: https://www.gotomeet.me/FDDWebinar/hbsb-snsr-committee-meeting-january-2022 Or call: +1 (872) 240-3212 Access Code: 833-722-805
January 26, 2022 9 am – 3 pm	Board Procedures Committee (Ad hoc)	GoToMeeting: https://www.gotomeet.me/FDDWebinar/hbsb-bp-committee-meeting-january-2022 Or call: +1 (408) 650-3123 Access Code: 834-687-925
January 27, 2022 9 am – 3 pm	Instrumentation Committee	GoToMeeting: https://www.gotomeet.me/FDDWebinar/hbsb-instrumentation-committee-mtg-january-2022 Or call: +1 (408) 650-3123 Access Code: 191-634-925

DATE	MEETING	LOCATION
February 10, 2022 9 am – 3 pm	Codes and Processes Committee	Microsoft Teams: Click here to join meeting Or call: +1 (916) 535-0978 Access Code: 158 186 172#
February 23, 2022 9 am – 3 pm	Education and Outreach Committee	Microsoft Teams: Click here to join meeting Or call: +1 (916) 535-0978 Access Code: 509 393 906#
March 15, 2022 9 am – 3 pm	Energy Conservation and Management Committee	Microsoft Teams: Click here to join meeting Or call: +1 (916) 535-0978 Phone Conf ID: 509 393 906#
March 23, 2022	Technology and Research Committee	CANCELLED
April 15, 2022 10 am – 4 pm	Instrumentation Committee	Microsoft Teams: Click here to join the meeting Or call: +1 916-535-0978 Phone Conf ID: 483 058 017# In Person: HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071 HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833

DATE	MEETING	LOCATION
<p>April 28, 2022 10 am – 4 pm</p>	<p>Full Board</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 797 666 93#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>May 12, 2022 10 am – 4 pm</p>	<p>Codes and Processes Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 664 167 70#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
May 25, 2022 10 am – 4 pm	Education and Outreach Committee	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 127 072 398#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
May 27, 2022 10 am – 4 pm	Instrumentation Committee	<p>CANCELLED</p>
June 14, 2022 10 am – 4 pm	Energy Conservation and Management Committee	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 840 158 903#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>June 22, 2022 10 am – 4 pm</p>	<p>Structural and Nonstructural Regulations Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 202 080 82#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>July 5, 2022 10 am – 4 pm</p>	<p>Instrumentation Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 127 072 398#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
July 14, 2022 10 am – 4 pm	Codes and Processes Committee	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 466 558 107#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
July 27, 2022 10 am – 4 pm	Technology and Research Committee	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 677 110 790#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>August 11, 2022 10 am – 4 pm</p>	<p>Full Board</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 397 546 304#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>August 17, 2022 10 am – 4 pm</p>	<p>Education and Outreach Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 589 645 35#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>September 13, 2022 10 am – 4 pm</p>	<p>Energy Conservation and Management Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 411 125 179#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>September 22, 2022 10 am – 4 pm</p>	<p>Structural and Nonstructural Regulations Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 813 956 637#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>September 29, 2022 10 am – 4 pm</p>	<p>Instrumentation Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 643 293 61#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>October 13, 2022 10 am – 4 pm</p>	<p>Codes and Processes Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 755 694 74#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>October 19, 2022 10 am – 4 pm</p>	<p>Education and Outreach Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 375 972 865#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>October 27, 2022 10 am – 4 pm</p>	<p>Instrumentation Committee</p>	<p><u>Microsoft Teams:</u> Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 165 349 325#</p> <hr/> <p><u>In Person:</u> HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>

DATE	MEETING	LOCATION
<p>November 1, 2022 10 am – 4 pm</p>	<p>Technology and Research Committee</p>	<p>Microsoft Teams: Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 253 486 424#</p> <hr/> <p>In Person: HCAI Los Angeles 355 S. Grand Ave, Ste. 2000 Los Angeles, California 90071</p> <p>HCAI Sacramento 2020 West El Camino Ave, Ste. 930 Sacramento, CA 95833</p>
<p>December 7, 2022 10 am – 4 pm</p>	<p>Two-day Full Board (Day 1)</p>	<p>Microsoft Teams: Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 865 112 831#</p> <hr/> <p>Sacramento: HCAI 2020 W. El Camino Ave. Conference Center 900 A/B Sacramento, CA 95833</p>
<p>December 8, 2022 9 am – 12 pm</p>	<p>Two-day Full Board (Day 2)</p>	<p>Microsoft Teams: Click here to join the meeting</p> <p>Or call: +1 916-535-0978</p> <p>Phone Conf ID: 865 112 831#</p> <hr/> <p>Sacramento: HCAI 2020 W. El Camino Ave. Conference Center 900 A/B Sacramento, CA 95833</p>

NOTE: Individuals with disabilities may request an accommodation or modification to observe or participate in the meetings by contacting Evett Torres at (916) 440-8453,

evett.torres@hcai.ca.gov or by sending a letter to 2020 West El Camino Avenue, Suite 800, Sacramento, CA 95833. Providing your request at least five (5) business days before the meeting will help ensure availability of the requested accommodation

HOSPITAL BUILDING SAFETY BOARD MEMBERSHIP

Appointed Members (Appointed by HCAI Director)

MEMBERSHIP CATEGORIES	NAMES	APPNTMNT DATE	TERM EXP DATE	TERM OF SERVICE
2 structural engineers	James O. Malley	8/2020	8/2024	1 st term
	Farzad Naeim	8/2021	8/2025	1 st term
2 architects	Deepak Dandekar	5/2015	5/2023	2 nd term
	Scott Mackey	8/2021	8/2025	1 st term
1 engineering geologist	Bruce Clark	12/2019	12/2023	1 st term
1 geotechnical engineer	Marshall Lew	5/2015	5/2023	2 nd term
1 mechanical engineer	Louise Belair	6/2017	6/2025	2 nd term
1 electrical engineer	VACANT			
1 hospital facilities manager	Bruce A. Rainey	12/2018	12/2022	1st term
1 local building official	David Khorram	6/2019	6/2023	1 st term
1 general contractor	VACANT			
1 fire/life safety representative	Scott L. Jackson	6/2018	6/2026	2 nd term
1 hospital inspector of record	Mike Hooper	5/2015	5/2023	2 nd term
3 public members	Michele Lampshire	12/2019	12/2023	1 st term
	David Bliss	5/2016	5/2024	2 nd term
	D. Michael Foulkes	6/2017	6/2025	2 nd term
TOTAL	16			

Ex-Officio Members

HCAI, Director	Elizabeth Landsberg	No Term of Office Stipulated
State Fire Marshal	Mike Richwine	
State Geologist	VACANT Tim McCrink/Jennifer Thornburg (Delegates)	
Building Standards Commission, Executive Director	Mia Marvelli	
Department of Public Health, Director	Tomás J. Aragón, M.D., Dr. P.H. Nathaniel Gilmore (Delegate)	
Facilities Development (HCAI), Deputy Director	Chris Tokas	
TOTAL	6	

Director Appointed Ex-Officio Members (Serve at pleasure of Director)

2 members	Bert Hurlbut Michael O'Connor	No Term of Office Stipulated
TOTAL	2	

TOTAL HBSB Members	24	
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2022 CONSULTING COMMITTEE MEMBERS

<p>Benjamin Broder, MD, PhD, CPPS KAISER PERMANENTE/SO. CALIFORNIA 393 E. Walnut St. 3rd Floor NW Pasadena, CA 91188-8034 (626) 405-2501 Benjamin.I.Broder@kp.org <ul style="list-style-type: none"> • Technology and Research Committee </p>	<p>John Donelan HCAI/ FDD 355 S. Grand Avenue, 19th Floor Los Angeles, CA 90071 (916) 284-2235 John.Donelan@hcai.ca.gov <ul style="list-style-type: none"> • Codes and Processes Committee • Education and Outreach Committee </p>
<p>Gary Dunger Executive Director, Facilities Design and Construction Cedars-Sinai Health System 6500 Wilshire Blvd, 20th Floor Los Angeles, CA 90048 (323) 866-6537 Gary.Dunger@cshs.org <ul style="list-style-type: none"> • Codes and Processes Committee • Education and Outreach Committee • Technology and Research Committee </p>	<p>John Griffiths PE LEED AP CONTECH-CA 366 Forrest Ave. Fairfax, CA 94930 (415) 652-4833 JGriffiths@contech-ca.com <ul style="list-style-type: none"> • Energy Conservation and Management Committee </p>
<p>Hamid Haddadi California Geological Survey 801 K Street, MS 13-35 Sacramento, CA 95814 (916) 322-9304 FAX: (916) 323-7778 Hamid.Haddadi@consrvation.ca.gov <ul style="list-style-type: none"> • Instrumentation Committee </p>	<p>Mark Hershberg, SE KPFF Consulting Engineers 6080 Center Drive, Suite 300 Los Angeles, California 90045 (310) 665-1536 MHershberg@kpff-la.com <ul style="list-style-type: none"> • Codes and Processes Committee </p>
<p>Moh Huang California Geological Survey Moh.Huang@gmail.com <ul style="list-style-type: none"> • Instrumentation Committee </p>	<p>Eric C. Johnson, PE President ECOM Engineering, Inc. 1796 Tribute Road, Suite 100 Sacramento, CA 95815 (916) 641-5600 ECJ@ecomeng.com <ul style="list-style-type: none"> • Energy Conservation and Management Committee • Technology and Research Committee </p>

2022 CONSULTING COMMITTEE MEMBERS

<p>David Lockhart CHFM, CEM National Facilities Services Kaiser Permanente 1600 Eureka Road Roseville, CA 95661 (916) 784-5280; tie-line (8-514) Dave.Lockhart@kp.org</p> <ul style="list-style-type: none"> • Energy Conservation and Management Committee 	<p>Michelle Malone, MPA Chief Executive Officer/Owner TruNrth, Inc. (831)809-9596 (cell) Michellejm284@gmail.com</p> <ul style="list-style-type: none"> • Structural and Nonstructural Regulations Committee
<p>Tony Shakal California Geological Survey Tshakal@pacbell.net</p> <ul style="list-style-type: none"> • Instrumentation Committee 	<p>Bill Zellmer, AIA, CASp Program Manager—Physical Access Compliance and Regulatory Affairs Sutter Health (916) 216-3491 (cell) Zellmeh@sutterhealth.org</p> <ul style="list-style-type: none"> • Education and Outreach Committee

**HOSPITAL BUILDING SAFETY BOARD
2022 COMMITTEES**

BOARD PROCEDURES COMMITTEE (AD HOC)

<p><u>Committee Members:</u> Michael Foulkes, Chair VACANT, Vice-Chair Louise Belair Bruce Rainey</p>	<p><u>HCAI Representatives:</u> Joe LaBrie Carl Scheuerman</p> <p><u>Meeting Dates:</u> January 26</p>
<p><u>Focus/Goals:</u></p> <ul style="list-style-type: none"> • Meet as needed for: <ul style="list-style-type: none"> ○ Policies and Procedures updates ○ Nominating committee, training/onboarding members 	

CODES AND PROCESSES COMMITTEE

<p><u>Committee Members:</u> Michael O'Connor, Chair VACANT, Vice-Chair Louise Belair Mike Hooper Scott Jackson Michele Lampshire Scott Mackey Jim Malley Farzad Naeim</p>	<p><u>HCAI Representatives:</u> Brett Beekman Larry Enright Mickey Fong Bill Gow Roy Lobo Diana Navarro Carl Scheuerman Nanci Timmins</p>
<p><u>Consulting Members:</u> John Donelan Gary Dunger Mark Hershberg</p>	<p><u>Meeting Dates:</u> February 10 May 12 July 14 October 13</p>
<p><u>Focus/Goals:</u></p> <ul style="list-style-type: none"> • Update CANs and PINs to code (ongoing) • Mental health jurisdiction flowchart and guide • TIO Program: virtual/offsite inspections • Develop standards for a behavioral health observation unit • Evaluate and articulate detailed building standards for SNFs • Emergency Design Guide • Title 24, Part 3, 4, and 5 <ul style="list-style-type: none"> ○ NPC-5 Water, Sewer storage requirements ○ Identify code modifications to support Part 6 implementation of energy savings measures ○ Revisit MEP systems Inspections requirements ○ Revisit Fire Protection drawing stamping requirements per MEOR ○ Ventilation Table Standard Format 	

EDUCATION AND OUTREACH COMMITTEE

Committee Members:

Mike Hooper, Chair
VACANT, Vice-Chair
Louise Belair
Deepak Dandekar
Bert Hurlbut
David Khorram
Scott Mackey
Bruce Rainey

Consulting Members:

John Donelan
Gary Dunger
Bill Zellmer

HCAI Representatives:

Hussain Bhatia
Monica Colosi
Mickey Fong
Bill Gow
Joe LaBrie
Cesar Ponce
Nanci Timmins

Meeting Dates:

February 23
May 25
August 17
October 19

Focus/Goals:

- Webinars:
 - Offsite Fabrication/Pre-assembled components
 - PINs and CANs related to Fire Life Safety, Pre-approvals, medicine dispensing units and emergency projects
 - Emergency Design Guide
 - Develop a regular curriculum and predictable calendar for webinars
- Engage volunteers based on webinar list presented at last committee meetings:
 - California Administrative Code – 1Q2022
 - PIN 50 – 2Q2022
 - Emergency Design Guide – 3Q2022
- Prepare for 2023 Seminar
- Define outreach process
 - Contact licensing boards to get the word out about Ed Opp/listserv subscription and promote HCAI data sharing

ENERGY CONSERVATION AND MANAGEMENT COMMITTEE

Committee Members:

Scott Jackson, Chair
VACANT, Vice-Chair
Louise Belair
David Bliss
Deepak Dandekar
Michael Foulkes
David Khorram
Michele Lampshire
Bruce Rainey

HCAI Representatives:

Larry Enright
Bill Gow
Carl Scheuerman
Jamie Schnick
Nanci Timmins

Meeting Dates:

March 15
June 14
September 13

Consulting Members:

John Griffiths
Eric Johnson
David Lockhart

Focus/Goals:

- Work with CEC to develop mutually agreeable standards for hospital building energy efficiency in 2025 code cycle
- Identify HCAI research projects for energy conservation, reduction of carbon footprint, and cost savings while maintaining health and safety
- Conclusion: Develop recommendations for the next code cycle modification for HCAI to address microgrids, distributed energy resources, and interconnection to normal power versus emergency power. Identify how to overcome CMS for implementation. Microgrid demonstration project

INSTRUMENTATION COMMITTEE

Committee Members:

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

HCAI Representatives:

Hussain Bhatia
Erol Kalkan
Roy Lobo
Ali Sumer

Consulting Members:

Hamid Haddadi
Moh Huang
Tony Shakal

Meeting Dates:

January 27
April 15
~~May 27~~ RESCHEDULED
July 5
September 29
October 27

Focus/Goals:

- Continue working with HCAI staff on scheduled instrumentation installations
- Develop white paper for monitoring earthquake recovery
- Consider other systems and monitoring devices

STRUCTURAL AND NON-STRUCTURAL REGULATIONS COMMITTEE

<p><u>Committee Members:</u> Jim Malley, Chair Farzad Naeim, Vice-Chair Bruce Clark Mike Hooper David Khorram Marshall Lew Jennifer Thornburg</p> <p><u>Consulting Member:</u> Mark Hershberg Michelle Malone</p>	<p><u>HCAI Representatives:</u> Joe LaBrie Roy Lobo David Neou Carl Scheuerman Jamie Schnick Ali Sumer</p> <p><u>Meeting Dates:</u> January 13 June 22 September 22</p>
<p>Focus/Goals:</p> <ul style="list-style-type: none"> • Support HCAI with review of code changes (ongoing) • Support HCAI with review of new/revised PINs, CANs, and OPDs (ongoing) • Implementation of SPC-4D and NPC-4D • Issues regarding repurposing hospital buildings (ongoing) • Develop pre-approved details • Revisit NPC-5 requirements (in progress) 	

TECHNOLOGY AND RESEARCH COMMITTEE

<p><u>Committee Members:</u> Bruce Rainey, Chair Michael Foulkes, Vice-Chair David Bliss Deepak Dandekar Bert Hurlbut Scott Mackey Michael O’Connor</p> <p><u>Consulting Member:</u> Benjamin Broder Gary Dunger Eric Johnson</p>	<p><u>HCAI Representatives:</u> Hussain Bhatia Larry Enright Joe LaBrie Carl Scheuerman Jamie Schnick Nanci Timmins</p> <p><u>Meeting Dates:</u> March 23- CANCELLED July 27 November 1</p>
<p>Focus/Goals:</p> <ul style="list-style-type: none"> • Explore subjects of telemedicine and robotics • Discuss the effect of technologies on healthcare equity • Monitor CDPH electronic health records redundancy issues in the event of power failure and watch for potential effects to code • Emerging tools <ul style="list-style-type: none"> ○ Technologies that help reduce the carbon footprint for healthcare facilities and implementation relative to code implementation of emerging tools relative to the code. 	

FULL BOARD MEETING DATES

April 28 – Virtual + Sacramento and Los Angeles
 August 11 – Virtual + Sacramento and Los Angeles
 December 7 and 8 – Virtual + Sacramento and Los Angeles